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YOUR FARM REPORTER AT WASHINGTON.

Thursday, May 1, 1930.

Cooperative Interview No. 33:

Butter Co-ops and the Quality Market.

ANNOUNCEMENT: Your farm reporter at Washington has another report for you. He has been talking butter markets with one of the butter specialists in the co-op division of the Federal Farm Board. Maybe from what he has gathered he can tell us which side our bread is buttered on -----How about it, Mr. Reporter?

The bread of co-op creameries seems to be buttered on the side of bigger co-ops. Anyway, the butter will have to be good butter. That's what we are coming to, according to what Mr. E. T. Hobart tells me.

Mr. Hobart is a butter specialist the co-op division of the Federal Farm Board. He is just back from making a study of the New York City market; which takes just over one sixth of all the butter produced in the United States, and is the leading market for quality butter in this country.

As he sees it, this question of quality in butter is getting more and more important. Up until last fall, he says, we were riding on the top of the wave. But the time may come when we produce more butter than we consume. When that time comes, he thinks, it is a question whether the small co-op creamery will be able to do as well as it has been doing without joining a central marketing organization.

The only hope he sees for us little fellows is to increase the size of our plants so as to make better use of all our dairy products; to make high-quality butter, and belong to a co-op big enough to follow the markets and be able to switch from a market which may be temporarily over-supplied to some other market where there is a shortage of butter.

At the present time, the co-op creamery which produces high-quality butter has a good market in New York. New York is potentially a much better quality market. Mr. Hobart tasted butter all over the little old town. He found quality butter in every section of the city. Most of it came from the Middle-West. But, while there is a lot of good butter sold in New York, it is not, as a rule, sold on a quality basis. Sometimes poor-quality butter brings the highest prices.

The consumer doesn't know what he is getting. In most cases, even the retailer largely relies on the wholesaler's salesman. For that reason,

Mr. Hobart holds, our co-op will have to educate the consumer as to the superior keeping qualities of sweet-cream butter and the value of butter officially scored. To do that will take salesmanship such as the individual, small co-op is hardly in a position to furnish by itself.

As it is, retailers sometimes get fifteen cents a pound more for the butter of centralized commercial plants than they can get for sweet-cream butter. It is worth noting, however, that the commercial centralized concerns which have been most successful do not let their butter stay on the retailer's shelves too long. They arrange to pick up and take back any butter left unsold a certain time after delivery. Butter is a perishable commodity. Left off the ice in the store, it may damage the reputation of the creamery.

Education of retailers and wholesalers in the handling of butter is another service the big regional marketing association is better able to do than the individual small creamery.

As Mr. Hobart sees it, there would be little to gain for our co-ops to go directly to the retailers. That would mean multiplying accounts and maybe getting a big unwieldy overhead organization. In New York, the butter used to go first to wholesale receivers. The wholesale receivers sold to the wholesale jobbers. The wholesale jobbers in turn sold to the retailers. But the volume of butter handled that way is getting less and less. The volume of the receivers is being cut. Many of the wholesale receivers have become wholesale jobbers. They buy direct from the creameries and sell direct to the retailers. As a rule, they run on a very small margin of profit.

The retail store, on the other hand, frequently takes a margin amounting to twenty per cent of the sales value of the butter. Mr. Hobart's idea seems to be that we can continue to use much of the present machinery at the market, but by standardizing our product and by helping to educate the trade and the consumers through big central sales associations, we can get a fairer share and quality prices for quality butter.

The chain stores are playing an important part in the New York butter market, and are even now handling a large part of the butter going into New York. Some of the chain store organizations buy through the wholesale jobbers or receivers, others are going right out and getting butter direct from co-op creameries in Iowa, Wisconsin, and Minnesota. Others have even gone out and organized creameries to supply their chains.

Ten years ago, much of the butter shipped into New York was shipped out again to supply cities from Maine to Florida. Now, however, most of the tremendous quantity of butter shipped to New York is used in the city itself and the nearby towns. The big co-ops are shipping in car-load lots direct to the other cities along our Atlantic Seaboard. But while the butter for these other cities is not now supplied through New York City, New York City remains the leading butter market of the country. And the possibility of further development as an outlet for quality butter is just coming to the fore.

It was not until the World War that the U.S. Navy demand for sweet-cream butter attracted attention to its superior keeping qualities. A wholesaler in New York was induced to handle sweet-cream butter, but found his customers complaining that it lacked taste. He was forced to hold quantities in storage. When it was taken out, however, it was in so much better condition than other butter held the same length of time that he had no trouble disposing of his supply. Since then he has specialized in sweet-cream butter and built up quite a successful market for it.

Recently one big regional co-op west of the Rockies has expanded its operations in New York and Mr. Hobart expects it also to develop an excellent market for its product.

The big regional which can standardize the quality of the butter produced by its local creamery members and educate its market to know and demand quality-butter he considers the chief hope for the future of many of our local creameries.

ANNOUNCEMENT: Any questions which you may have in your mind about the work of the Federal Farm Board may be answered in Federal Farm Board Circular No. 1. You can get it by writing to the Federal Farm Board at Washington, D. C. The talk to which you have just listened is presented by this Station ----- in cooperation with the Board and with the United States Department of Agriculture.

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YOUR FARM REPORTER AT WASHINGTON.

Friday, May 2, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Dairy Interview No. 33: CARE IN COOLING MILK IN THE SPRING.

ANNOUNCEMENT: Another one of the things that follow in the wake of spring on dairy farms is the necessity for taking extra care in cooling milk and cream. So as his regular weekly report to dairymen, Your Farm Reporter at Washington talks today about care in cooling milk at this time of year. He brings you this information direct from Mr. C. S. Leete, one of the market milk specialists of the United States Department of Agriculture. All right, Mr. Reporter.

Our great grandfathers and great-great grandfathers didn't know there were such things as bacteria, so they did not know WHY their milk soured. But they did find long ago that milk stayed sweet much longer when it was kept cool. People have used spring houses almost since history began, and where they had no springs they dug caves and cellars, and they hung milk and cream in the well or the cistern, just as we do today.

So there's nothing new-fangled about cooling food to prevent spoiling. The advantage we have over our grandfathers is that we know what causes milk to sour. We know that the villians are tiny plants, which we call bacteria. And we know that bacteria are like most other plants, they grow best in a warm temperature and they have hard going in cold temperatures. And so we know just about what we have to do to control them.

And yet, with all the practical facts handed down to us through the ages, and with all our new knowledge, it is estimated that millions of dollars worth of milk and cream still go to waste each year because it is not properly cooled. For one thing, we have to be much more careful than our grandfathers had to be. We transport milk and cream much greater distances than they ever dreamed of transporting it. And besides we have a public that is educated to demand high-quality products.

While we're talking about old times, we might recall that we used to believe thunderstorms caused milk to sour. We know now that the thunder has nothing to do with it, but that the real cause is the intense heat which usually comes before a storm. Milk which has been thoroughly cooled and then stored in a cooling tank will not sour any more quickly during a thunderstorm than at any other time.

Now in the winter months farmers usually depend on the weather to keep milk cool. And in the summer they're usually well prepared to deal with the heat. But it seems that in the in-between months of Spring we're likely to be caught napping. Several of the big dairy companies report trouble with sour milk at this time of year, and the trouble has been traced to lack of cooling.

The reason seems to be that Spring often catches us when we aren't looking. We've been used to depending on the weather to keep milk cool. So when 3 or 4 hot days come along unexpectedly we aren't prepared for them. Or if we are prepared, we may let them slip by through force of the Winter's habit. Yet a hot night in the Spring has the same effect as hot nights later on in the Summer.

In my interview with Mr. Leete, he emphasized the point that nothing can take the place of cooling. No matter how healthy our cows, no matter how careful we are to thoroughly cleanse our utensils against bacteria, we must realize the great importance of keeping our milk and cream cool.

We must bear in mind the fact that the milk comes from the cow at a temperature that is very favorable to bacterial growth, so it's easy to see why prompt cooling, to 50 degrees or below, is important -- and the quicker we cool it the better.

Farmers cool their milk in various ways, but probably the most common way is to use the surface cooler, which is made of corrugated metal and resembles a large washboard. Ice water runs on the inside of the cooler, and the milk flows over the outside. This kind of cooler helps to remove undesirable feed or weed flavors and odors, as well as to cool.

After the milk or cream is cooled it must be stored so that it will stay cool. Milk cans are usually submerged in water containing ice, but Mr. Leete says that insulated tanks, kept cool by mechanical refrigeration, are becoming more and more popular.

Don't try to cool too many cans in one tank, he advises. Ordinarily it takes about 4 gallons of ice water to cool 1 gallon of cream. You can figure from this the amount of refrigeration you'll need to cool the amount of milk or cream you have, and you may find it advisable to divide your tank up into sections, or to have more than one tank.

Farmers who have access to spring water are fortunate, and sometimes they may be able to get along without ice. However, Mr. Leete suggests, the temperature of spring water often runs higher than 55 degrees, so it is worthwhile to add ice anyway, as a safety-first measure.

"And remember," he says, "that tanks need frequent cleaning. So build them to allow the water to drain out to permit cleaning.

Now, after cooling his milk properly and storing it properly, the modern dairyman still faces the problem of transportation. Temperature is almost sure to rise during transportation unless precautions are taken. For short trips blankets -- or better still, wet blankets -- may be sufficient cover for the milk cans. But where particular care is needed, dairymen use jackets which fit tightly over the cans and are so insulated that they allow no great rise in temperature.

The same thing applies, of course, where trucks come along to pick up your cans. Don't take any chances on having them stand out in the sun an hour or two before the truck arrives. Keep them covered.

In these days milk is transported long distances, and this is possible only because it is cooled thoroughly before starting and is kept cool until it reaches its destination. Bacteria do not thrive in cold milk -- this is an important thing to bear in mind.

So it seems that if milk is produced under sanitary conditions, and is promptly cooled, and is held in storage tanks at a temperature of 50 degrees or below, and then protected on the way to market -- we have little to fear. We can expect that it will get to market in good condition, and therefore command good prices.

ANNOUNCEMENT: Your Farm Reporter has just reported to his dairymen-friends on the subject of cooling milk in the Spring. If you want further information, write for the publication entitled "Cooling Milk and Cream on the Farm," Farmers' Bulletin No. 976-F. Send your requests to Station _____ or to the U. S. Department of Agriculture at Washington, D. C.

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YOUR FARM REPORTER AT WASHINGTON.

Monday, May 5, 1930.

NOT FOR PUBLICATION.

Speaking Time: 10 Minutes.

All Regions.

THE IMPORTANCE OF THE FARM WATER SUPPLY.

OPENING ANNOUNCEMENT: Your Farm Reporter in Washington has been gathering some information on farm water supplies, and is ready to talk to us on that subject at this time. This program comes to you from Station _____ in _____ through the cooperation of the United States Department of Agriculture. All right, Mr. Reporter, let's go.

--ooOoo--

Last Monday at this time I talked to you about the importance of the livestock water supply. To-day I want to talk to you about the different ways by which water is supplied to the six and a half million farms in this country.

The 1920 census reports one out of each ten farms in the United States as having water piped into the house. That means that 80 or 90 per cent of the farm water in this country is still handled by hand, and that "carrying water," is still a common practice in many sections of this progressive country of ours.

Out in Nebraska the State Agricultural College got so interested in this water carrying matter that it made a survey at 284 farms to find out the actual conditions. This survey showed that wells formed the basis for the home water supply in the Nebraska territory, that an average of 178 gallons of water was used by each household in one week, and that 5.9 gallons of water was used per person per day.

The Nebraska survey also showed that each week an average distance of 4,265 feet was traveled in carrying water in the households surveyed. This amounted to three and one-half miles per month or 42 miles in a year. It required 3 hours per week to carry water, 13 and one-half hours per month or a total of 162 hours per year. On a ten-hour-a-day basis the time consumed in carrying water amounted to more than 16 days or more than one-half of the longest month in the year. The conditions are no worse in Nebraska than they are in many of the other States. I mention Nebraska merely because they made the survey and published the results. It will be very interesting when the new census shows what progress has been made since the 1920 report-----that only one out of every 10 farms in the United States had water piped into the house.

I thought you radio people would be interested in this farm water supply subject, so I went down on Pennsylvania Avenue here in Washington and had a talk with George M. Warren one of Uncle Sam's Hydraulic Engineers connected with the Agricultural Engineering division of the Bureau of Public Roads, and I might add that Mr. Warren wrote the FARMSTEAD WATER SUPPLY bulletin that I'm going to offer you at the end of this talk, and here's the first paragraph in that bulletin:

"Farm women say their greatest need is to have water piped into the house, especially to the kitchen sink. To draw water by turning a faucet does wonders to lighten the ~~work~~ and revive the spirits of the housewife. Farm men find running water no less convenient. No other utility is so often used. If the water is pure, no other utility does so much to promote the health of both man and stock," and that brings me to a table in this bulletin. I want to quote that table because it shows about how much water persons and livestock ought to use in a 24-hour day. Listen to the table.

With one pump at the kitchen sink, the domestic consumption per person will average from 4 to 8 gallons of water in the 24-hour day. Change the pump to a faucet--the water consumption increases and the average is from 7 to 15 gallons. Running hot and cold water in the kitchen, bathroom, and laundry calls for an average of from 20 to 25 gallons of water per day per person. The average daily consumption in the modern home should be around 40 gallons of water per person per day. If it has to be drawn out of a well with a rope and bucket, the average will drop to about 5 gallons per day per person, instead of what it should be for health, comfort and cleanliness. A horse, a mule, or a cow ought to receive an average of about 12 gallons of water per day, depending on the season, the work, and several other conditions. A sheep or a hog ought to receive at least one gallon per day per animal.

Now folks, that's the table. Let's take a small farm with 4 horses, 3 cows, 10 hogs, 200 chickens, and 5 sheep, and 5 members in the family. How much water should be furnished for this establishment?

Four times 12 equals 48 gallons of water needed every day for the horses. Add 36 gallons to that for the three cows, 15 gallons for the hogs and sheep, 4 gallons for the chickens, and 200 gallons for the family, and we have a total of 303 gallons of water needed on that farm for an average day.

The average well bucket holds 10 quarts---that's two and one-half gallons. Now folks, that bucket would have to make more than 120 trips down in the well and come up full every time in order to furnish enough water for such a farm just one day, and the same bucket would have to make more than 43,000 trips down in that well to furnish the yearly water supply. I'm telling you, I was born and reared on a farm, and I carried water, but I'd hate to have to draw water for the farm we are considering if the well was as deep as wells have to be in some sections of the country. What would happen? I'll tell you what would happen in my case. I would look over the fence at the horse trough, and say,----well, Charlie, old boy, you ought to have a

fresh bucket of water in that trough, but I'll give it to you tonight. That night, I would put it off until the next morning, and on, and on.

Of course I know none of you radio listeners would treat your live-stock that way, but Mr. Warren thought I ought to mention this matter, so I have, and now it's up to you to provide the water because Mr. Warren has told us about how much water is needed.

Wells and springs furnish most of the water used on the farms of this country. These are generally satisfactory provided they are tightly covered and are located where foul drainage cannot reach them.

Creeks, ponds, rivers or other surface waters are unsafe sources of supply.

Mr. Warren believes that at most of the farms in this country water is still lifted out of the well by hand, but he says that power driven pumps are rapidly taking the place of the bucket and rope. That means more and better water, and that makes for improved livestock, and better family health.

Windmills, gasoline engines and electric motors are the more common sources of power for driving force pumps. Gravity lines from springs, hydraulic rams, for lifting water and rain water stored in cisterns are widely used methods of solving the farm water problem----where these can be used to advantage.

THE AVERAGE FARM NEEDS MORE PURE, FRESH WATER. That's the big point I got from Mr. Warren. If the water is good and plentiful it will be used abundantly and the farm will benefit accordingly. If ~~it~~ it is poor or scarce little will be used, and the farm will suffer.

And although the stock and the people on that farm may get along, how much better it would be if they had all the good water they wanted.

Nobody can accurately answer that question, but Mr. Warren gave me three bulletins which may help you solve some of your farm water problems. Here they are:

Farmers' Bulletin No.1448-F, "FARMSTEAD WATER SUPPLY."

Farmers' Bulletin No.1426-F, "FARM PLUMBING."

Farmers' Bulletin No.1460-F, "SIMPLE PLUMBING REPAIRS IN THE HOME."

These bulletine are all illustrated and contain much practical information on the more common questions relative to farm water supplies. You can get additional information from your State College of Agriculture, or from the United States Department of Agriculture in Washington, D. C.

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CLOSING ANNOUNCEMENT: You have just listened to one of the regular Farm Reporter programs broadcast from Station_____in_____each week day, except Saturday and Sunday, through the cooperation of the United States Department of Agriculture. Your Reporter mentioned Farmers' Bulletin No.1448-F, "FARMSTEAD WATER SUPPLY," Farmers' Bulletin No. 1426-F, "FARM PLUMBING," and Farmers' Bulletin No.1460-F, "SIMPLE PLUMBING REPAIRS IN THE HOME." Write this station for copies of these bulletins.

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MAY 6 1930

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.

Tuesday, May 6, 1930.

Crops and Soils Interview No. 34:

Painting for Protection.

ANNOUNCEMENT: We don't paint just to pretty up the place. Paint does make the house and the barn look more attractive; but it is a lot more important than that. Your farm reporter at Washington says it is often poor economy to put off painting. He is not selling paint, either. He got that from one of the specialists of the United States Department of Agriculture—— but I'll let him tell you about that ---- Go on, Mr. Reporter, This is your story -----

Yes, I've just been talking to Mr. H. P. Holman. He is the man who wrote the United States Department of Agriculture's well-known bulletin "Painting on the Farm." He tells me that the painting of farm buildings is a lot more important than it used to be.

As he explains it, that is because we just don't put as good material in our houses and barns. As a rule, we don't have it to use. For instance, white pine would last longer without painting than yellow pine does. Once you painted white pine, you didn't have to re-paint so often. Yellow pine is hard to keep painted properly.

It is much the same with metals. Sheet-steel rusts much faster than the wrought iron formerly used. The coating of tin on the sheet-steel of our so-called "tin" roofs is never perfect, so that a tin-roof unpainted even as long as twenty-four hours may begin to rust. Galvanized iron, on the other hand, may go for a year or more without rusting; as the zinc coating tends to retard rusting.

If rust ever gets started, you can't stop it by just painting over the rusted places. Unless the metal is heated, there will be enough moisture left in the rust for the rusting to spread under the paint. For that reason, Mr. Holman says, any metal roof should be painted at least once a year.

He suggested red lead as good for the first coat. The re-painting can be done with metallic pigment and linseed oil. In laying the tin-roof, however, be sure to get off all that rosin where the sheets are put together in the roll. If you paint over that rosin, it will break off and leave the metal exposed. Rusting will set up.

Spring and fall are the favorite seasons for outside painting with most folks. But you don't have to put off painting if the need shows up in summer or winter. You can paint buildings outside whenever the surfaces are dry and the weather is not damp, or frosty, or freezing. You can generally get the best results when the temperature is between 60 and 80 degrees Fahrenheit.

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Ordinarily, a wood building needs repainting about once every three or four years. An extra good job of painting may last for six years or more. But, Mr. Holman insists, it is poor business to put off painting when it is needed.

You've all seen old abandoned houses with the boards cracked and curled like dead leaves and the nails sticking out. We used to have one like that near us. The neighbors said there were 'hants' in that house. But the worst haunted person thereabouts was the owner who neglected to paint. Of course, no painter could do a decent job on wood in that condition. To make that house habitable, the old siding had to be taken off altogether and new siding had to be put on. The owner found it cost money not to paint, and paint promptly.

Maybe only a few boards on your house are showing signs of weathering. They may not look bad at a distance. But remember, when wood gets rough and twisted by the weather, it may be too late for the saving power of paint. No ordinary painting hides big cracks in the wood, smooths a rough surface, flattens a cupped board, or presses a warped plank snug again.

Mr. Holman tells me that the Forest Products Laboratory of the U. S. Department of Agriculture studied the why and wherefore weather boarding weathers badly. Most weather checks and cracks as well as warping and cupping and the falling out of nails is caused by the surface of the wood swelling and shrinking due to quick wetting and drying.

The coating of paint slows down such moisture changes and gives the board time to adjust itself to the strain. The board stays smooth. So does your temper. The house or barn looks better. In fact, it is better. It will last longer.

Just step up to the side of the house. Look at the paint on it. See whether it is getting too old for its work. Is it covered with a fine net-work of cracks. Examine those cracks closely, you'll see they go right down to the wood. Do you see any of those cracks running parallel to the grain in the wood? You can slip the corner of a piece of paper into them to a depth of a sixteenth or an eighth of an inch. They are cracks in the wood, not just in the paint. That is the sign that it is time to paint.

Of course, a lot depends on the kind of paint you use and how it is put on. Some paints chalk or wear away gradually instead of developing checks on long weathering or exposure. Mr. Holman suggests that paints with a good percentage of white lead in them are best under most circumstances.

He says be certain to use good paint. It pays. The paint itself represents the smallest part of the expense of painting. Where you have to hire help to have the painting done, the cost of labor is two or three times as much as the cost of the paint.

Where the climate is very moist and hot, it is a good idea to use a paint with considerable zinc in it. In a moist, hot climate straight lead paints tend to chalk too fast and are also subject to mildew.

Paints high in zinc or lead-free paints are better than straight lead paints for buildings near a railroad or factories where soft-coal is used. The sulphur in the coal smoke darkens lead paints. Mr. Holman goes into all these things more fully in that bulletin he write on "Painting on the Farm" ----- I'll give you the number of that bulletin in a minute. Better get your pencil ready so you can take it down. -----

In painting new wood, he says, the paint should be thinned considerably with turpentine as well as with linseed oil to get a dull coat. The second coat should not entirely hide the surface and should also dry with a dull finish. You can get that effect by the use of turpentine or other thinner.

For the gloss finish coat, very little, if any, turpentine should be used. The oil gives the gloss. The turpentine tends to destroy the gloss. If you want a dull or flat finish, use only a small amount of linseed oil. ----

Now, I promised to give you the number of that bulletin. You can get it by writing to the United States Department of Agriculture at Washington. Ask for the bulletin on "Painting on the Farm." It is Farmers' Bulletin No. 1452-F.

ANNOUNCEMENT: Did you get that number? Farmers' Bulletin No. 1452-F. It tells about ready-mixed paints, paint mixed on the job, how to prepare the surface for painting, how to estimate how much paint you need, and how to put it on. You can get Farmers Bulletin No. 1452-F either by writing to this Station ----- which cooperates with the United States Department of Agriculture in presenting these farm reporter talks, or you can write directly to the Department at Washington, D.C.

RECEIVED
MAY 6 1930

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON

Wednesday, May 7, 1930

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

Poultry Interview No. 34: DEVELOPMENT OF PRODUCTION-BRED POULTRY

ANNOUNCEMENT: And now here's Your Farm Reporter at Washington, waiting to report another interview with his friend, A. R. Lee, Department of Agriculture poultry husbandman. He has some interesting facts and figures today on the development of poultry bred for production. There has been quite a development, in fact there had to be, because we couldn't make much money these days on the production we used to get. So let's have the facts, Mr. Reporter.....

Well, 10 years ago commercial egg producers figured that the entire flock had to produce an average of 130 eggs a year to be profitable. Now they figure on getting an average of 150 eggs per bird, or else most of the hens get the ax.

They're getting this higher production now partly because they know more about feeding and culling and sanitation than they used to— and above all, because they're taking advantage of the fact that production is an inherited characteristic. Everybody is doing it, not only commercial poultrymen, but farmers and back-yard poultry keepers and every other variety of poultry raiser. And the closer they check up on their profits and losses the more they make use of this new knowledge.

These are not my own observations, but Mr. Lee's. As he talked, he was getting together reports and charts and figures to show me what has happened in the last 10 years.

We find one sign of progress in the egg-laying contests. In the Connecticut egg-laying contest, for instance, all hens averaged more than 200 eggs in 1929, while 10 years ago the average was only a little over 150 eggs.

In Canada the government has been conducting national egg-laying contests since 1919. The first year, with 1610 birds entered, the average production was 122 eggs. There's been a steady improvement each year since, and with almost 4500 hens in the 1928-29 contest, the average was 176 eggs, a gain of 54 eggs per hen in 10 years. This doesn't tell the whole story, either, for since 1926 all eggs weighing less than 20 ounces per dozen have not been counted.

A Canadian hen, incidentally, holds the present world's record for egg laying. She's a Barred Plymouth Rock owned by the University of Saskatchewan, and during the 365 days ending last September she laid 358

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eggs. Before that the record holder was a White Leghorn at the University of British Columbia. She laid 351 eggs in a year. The best United States record is 341 eggs, made in 1928 by a Rhode Island Red pullet in the Connecticut egg-laying contest.

Now this doesn't mean, Mr. Lee says, that the White Leghorns and the Rhode Island Reds and the Barred Plymouth Rocks have a corner on high production. White Wyandottes, for instance, have led egg-laying contests more than once in past years. It simply means that poultrymen have given more attention to breeding the three main breeds for high production, and so it's easier to get good producing stock of these breeds. In most parts of the United States commercial poultrymen keep White Leghorns almost exclusively. And in the New England States they favor Rhode Island Reds. In both cases the stock is specially selected for high egg production and early maturity.

Now, it's nice to talk about 300-egg hens, and it would be nice to have one in your flock. But for all practical purposes Mr. Lee suggests that we forget all about them. The thing the practical poultry raiser is after, he says, is not a high-producing individual but a high flock average and uniform production. Fifty hens producing 160 eggs a year will pay off a note a lot quicker than one hen producing 300 eggs and 49 others producing 130.

A group of poultry farmers in New Jersey have been keeping records since 1920 to check on their progress through breeding for production. From 1920 to 1928 their flock averages increased from 132 eggs to 150 eggs per hen. They're making a living income from their poultry as a result, but they wouldn't be if their hens were still averaging 132 eggs a year.

Massachusetts poultrymen give us still another picture of the relation of production to profits. Their records show that average egg production is the most important factor influencing profits per bird. They've found that for each increase of one dozen eggs in average production per hen, the return on the poultryman's labor per hen increases about 35 cents.

"However," says Mr. Lee, "in seeking high production don't neglect other important points. Remember that you want high production in the fall and winter when egg prices are high. You want normal sized eggs, good hatchability, vigorous breeding stock of the right type and weight, and early maturity."

"So you see," he went on, "breeding becomes a real art. And for that reason it is largely in the hands of specialized breeders of production-bred poultry. These breeders must trap nest their hens, pedigree their stock, and be everlastingly selecting for improvement."

"Naturally the average farmer who keeps poultry as only one line of his farm business can't be a pedigree breeder. However, he can get the benefit of production breeding just the same. He can buy day-old chicks hatching eggs or production-bred males from the men who do specialize in

breeding. And then he can cull his flock carefully and replace most of the older hens with good pullets. And he can keep records so he'll know where he stands. If he doesn't keep records, he doesn't know whether his hens are averaging 100 eggs a year and barely paying for their keep, or whether they're averaging 150 eggs and giving him a good profit.

"The commercial egg farmer, you see, is much more likely to know whether his hens are good or poor producers. For he won't be able to stay in business very long unless his hens average 150 eggs.

"With present egg prices, Mr. Lee concluded, "good production is even more important than it usually is. The way things are now the poultryman who produces eggs for profit either has to increase the efficiency of his flock or be satisfied with a smaller income. Don't misunderstand me--- we don't want more eggs on the market. But we do want the same number of eggs from fewer hens."

Now I have time just to mention three poultry bulletins you may be interested in. Here they are, titles first and then numbers: "Farm Poultry Raising," Farmers' Bulletin No. 1524; "Marketing Poultry," Farmers' Bulletin No. 1377; and "Marketing Eggs," Farmers' Bulletin No. 1378. Send your requests to Station _____ or to the Department of Agriculture in Washington.

ANNOUNCEMENT: That was Your Farm Reporter at Washington, passing on to you what Mr. A. R. Lee told him about the development of production-bred poultry. Your Reporter will be back at the microphone tomorrow at this same time to report his latest interview with a specialist of the Federal Farm Board.

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★ MAY 6 1930 ★

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.

Thursday, May 8, 1930.

Cooperation Interview No. 34b:

Interstate Potato and Tobacco Committees

(Region 3)

ANNOUNCEMENT: What is the meaning of these interstate committees? We have an Interstate Early Potato Committee. Now an Interstate Flue-Cured Tobacco Committee has been formed. What is it all about? We asked your farm reporter at Washington. He asked the experts in the co-op division of the Federal Farm Board ----- Now he is ready to tell us what they said -----

These interstate committees seem to be a highly important development. Dr. Frank B. Bomberger, in charge of the organization work of the Division of Cooperative Marketing in the Federal Farm Board, tells me that interest in them has become nation-wide.

He outlined to me just what they are; how they work, and what they aim to do.

As some of you know, the Interstate Early Potato Committee was formed a couple of years ago, before the Federal Farm Board came into the picture.

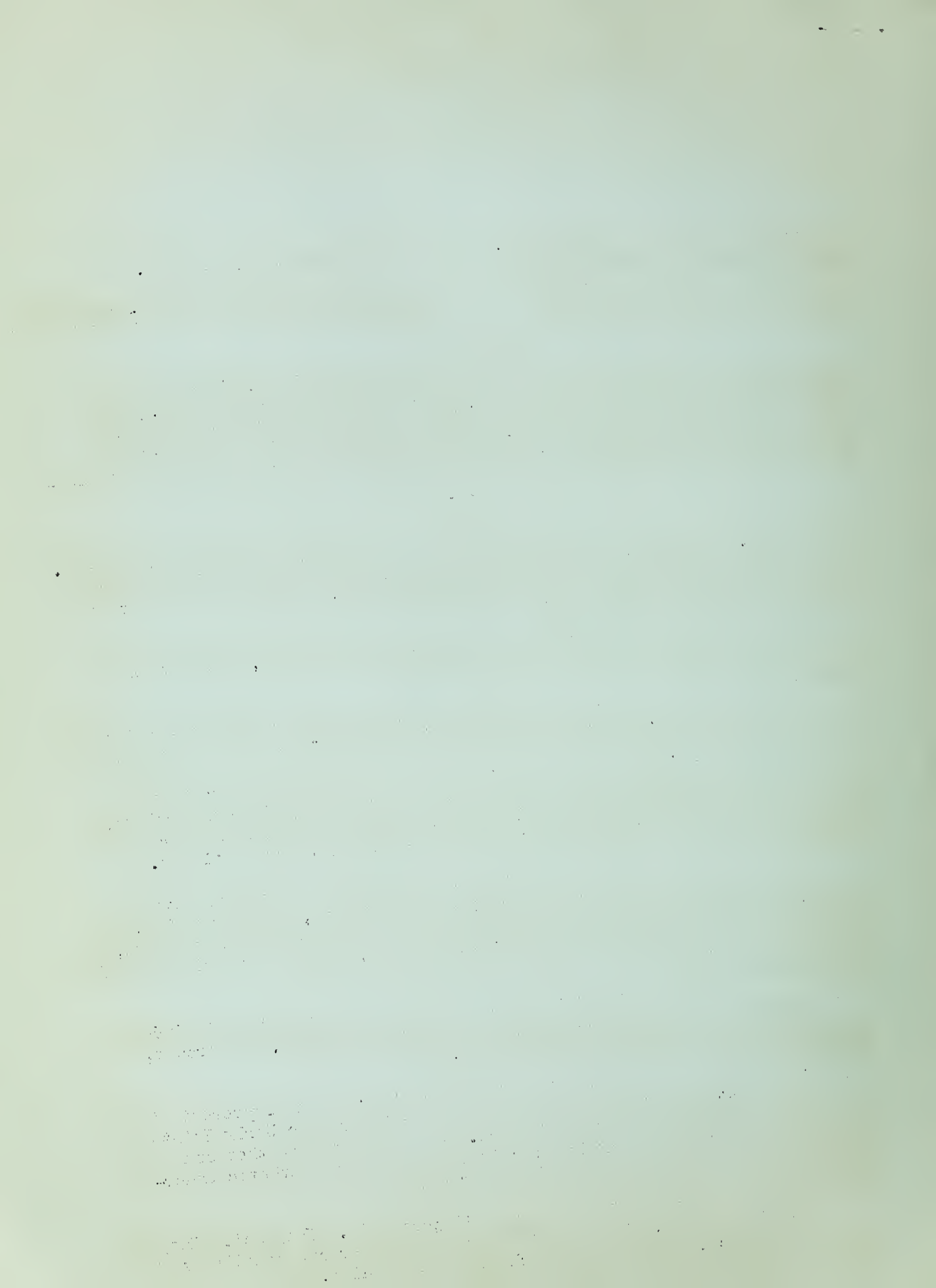
It has done such good work for the potato industry of our South Atlantic Coast from Florida to eastern and southern Virginia and Maryland, that the Federal Farm Board has joined with State organizations and other tobacco interests to form the Interstate Flue-Cured Tobacco Committee.

The Interstate Flue-cured Tobacco Committee is composed of five representatives from each of the States; North Carolina, South Carolina, Virginia, and Georgia; and one representative from the Federal Farm Board, one from the U.S. Bureau of Agricultural Economics, and one from the Federal Extension Service.

The five representatives from each State on the Committee include one from the State Extension Service, one market specialist, one grower, one warehouseman or dealer, and one banker.

Dr. Bomberger says that this getting together of the representatives of all the interested parties in the case of the Interstate Early Potato Committee has tended to create confidence. Just getting together and talking things over man to man has resulted in a more sympathetic understanding of the whole problem by all concerned.

But these Interstate Committees don't just talk. They act. They have a four-fold program. In each State there are four sub-committees of fifteen members each, to carry out each of the four aims.



First, there is a sub-committee made up of growers, and bankers, and supply merchants, and warehousemen, and extension workers, with the job of getting out advanced market information. They point the way to adjust acreage to market needs.

As Dr. Bomberger says that is not always a matter of urging cuts in acreage. The Interstate Early Potato Committee last season, advised some increase in potato acreage in Florida. The Committee pointed out to Maryland and Virginia growers, however, that by the time their crop comes on, western growers will also be shipping in competition with them so it would pay them to cut acreage.

While one sub-committee is presenting the facts on which to adjust acreage to the best advantage of the potato or tobacco business, as the case may be, another sub-committee tries to bring about a stabilization of credit. This credit stabilization committee aims to cut out gambling in credit and put advances on a sound basis.

A third sub-committee made up of growers, extension agents, experiment station workers, merchants, and bankers, has for its purpose the promotion of better balanced farming. Under present conditions, in the flue-cured tobacco region that often means the substitution of other much needed products for a part of the money crop.

A fourth sub-committee aims to improve market practices. It points the way to more orderly marketing. For example, one of the things the Interstate Early Potato Committee tries to prevent is consignment dumping which knocks the bottom out of market.

This whole four-fold program is one of education. The work is financed by the extension organizations of the different states and the Federal Extension Service and the United States Bureau of Agricultural Economics. These committees go up and down the State, holding conferences and meetings, and pointing out the facts, as applied to the present situation.

Some folks seem to think that such Interstate Committees may conflict or interfere with the organization of co-ops. Nothing could be further from the truth, Dr. Bomberger says. The whole idea behind the organization of these Interstate Committees is to lead up to cooperative marketing and the ultimate coordination of the whole selling process.

The aim is to give the particular farming industry involved advance information about supply and demand and marketing conditions so that when growers do decide to go into a co-op, they will go in with their eyes open.

The Interstate Flue-Cured Tobacco Committee is holding meetings for the discussion of the whys and wherefores of some of our failures in co-operation. Specialists of the U. S. Bureau of Agricultural Economics made an analysis of the business troubles of the old Tri-State Tobacco Association. The mistakes of the Tri-State are being pointed out. They say a wise man learns from the mistakes of others. Instead of hustling growers blindly into other hastily thrown together organizations, the Interstate Flue-Cured

Tobacco Committee apparently aims to lay the foundation of confidence and understanding, on which to build a sound tobacco co-op.

The growers and other tobacco interests will be given the facts, by the committee under the general direction of an executive secretary who is a thoroughly-trained tobacco-market man. It will then be up to the growers how they will act on the information. Dr. Bomberger says he recognizes that this may be a long-time program. He expects that it will result in farmers realizing that their best interests will be served by cooperation.

The success of this plan of presenting the facts and giving the growers the benefit of expert market advice has already been such, in the case of the Interstate Early-Potato Growers Committee of the south Atlantic coast, as to attract attention in other potato regions.

A similar plan has been considered for the Kansas-Oklahoma-Missouri potato growing section and a like movement has been started among the potato growers of Idaho, Montana, Oregon, and Washington.

ANNOUNCEMENT: Your farm reporter at Washington has just outlined for you the work of the Interstate Committees, with special reference to the Interstate Flue-Cured Tobacco Committee. This talk is one of a series presented by this Station_____ in cooperation with the Federal Farm Board and the United States Department of Agriculture.

★ MAY 6 1930 ★

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.
(Regions 1, 2, 4, and 5)

Thursday, May 8, 1930.

Cooperative Interview No. 34a:

Where to Store Wheat.

ANNOUNCEMENT : Where shall we store our wheat? that is the question. We sent your farm reporter at Washington to the specialists of the Federal Farm Board to find out what they had to say about this matter. Your reporter is now ready to give us the result of his questions. --- Shall we, Mr. Reporter ----- And how? -----

Ordinarily, the most convenient way to handle the wheat crop is to move it directly from the combine or threshing machine to the country elevator and from the country elevator to the mill. Mr. E. J. Bell, Jr., the grain man, of the co-op division, of the Federal Farm Board points out, however, that you can't be sure that that way of handling will not you most for your wheat.

Nowadays, with combine harvesting, and motor trucks for hauling, and good roads to run over, we are getting the crop on the market a lot faster than we ever did before. To judge by last year, we are getting the grain to the terminal markets too fast; faster than it can be handled economically. Not only does that tax terminal facilities beyond capacity and boost competition for storage space all over the country, but it disturbs the price structure at the same time it runs up the costs.

That being the case, will it pay us to hold our wheat? Now, Mr. Bell says, it is questionable whether or not an individual farmer can gain by holding his wheat. But he thinks maybe a farmers' co-op might save considerable by leaving the sale of the grain to an efficient manager who can keep in constant touch with market conditions.

A number of co-ops are now studying the wheat situation. They should soon be able to advise their members about storage and other market problems. The co-ops, Mr. Bell says, are the one best hope of the farmer in working out this storage problem. This is not any simple matter which can be settled off-hand.

According to Mr. Bell, there are advantages and disadvantages to any way of storing wheat. All types of storage are needed in the present system of handling wheat. Any cooperative program must provide all possible means of handling the crop economically.

Of course, some farmers pile the grain on the ground. Last year some grain was kept in box cars along railroad sidings because it could not be unloaded. In either case, we pay high for our storage. Neither the ground or a box car is the proper place to keep grain. We just won't consider either. So really when you get down to it, there are just four places you can store your wheat. You can store it on the farm, or at the country shipping points, or at interior concentration points, or at terminal markets.

I asked Mr. Bell just to list for us the advantages and disadvantages of the different places to store. Storage at terminal markets saves extra handling and the terminal elevators can have the best facilities for mixing and conditioning the wheat, he said. Furthermore, storage tickets from bonded terminal elevators are the very best collateral for loans.

On the other hand, storage at terminals caused the biggest jam at markets and taxes railroad facilities so much it may add to the shipping expenses. And not only that, but once at a terminal it rarely pays to move it back to any other market, so you may lose the chance of selling the wheat somewhere else, unless you can ship it farther in the same direction. Then, the wheat at the terminals becomes part of the visible supply and may shove down prices unduly.

A logical location for storage is often at a diversion point with a through freight rate to each of several markets. Then you can ship the wheat to whichever is the best market at any particular time. That is an advantage over the terminal market. The warehouse receipts of interior elevators also provide good collateral for loans.

Interior elevators can be built at a lower cost per bushel than bins at a local elevator. When yields are low in one locality, it is often possible to fill the diversion point elevators with wheat from other localities. Doing a bigger business than the local elevator, they can dry and condition grain at lower cost than can the country elevator.

Of course, there is an extra cost in handling. When you unload a car of grain into an interior elevator you add another step to the marketing process. And while you put less strain on the railroads than if you shipped all the way to the terminal, you put much more strain on them than if you store at the country elevator or at home during the rush season.

Not only that, but storage at diversion points would mean the loss of some of the benefits from high quality country run wheat, unless special bins were provided to prevent mixing.

Storage at local shipping points or on the farm has the advantage in that respect. And if the country elevator is bonded under state and federal law, it can issue storage tickets which are satisfactory collateral for loans. Wheat stored in the country elevator can also be shipped to the most advantageous market. And, of course, it relieves terminal congestion and undue strain on railroads, at the same time being near the

railroad and ready to ship any time regardless of the condition of the roads.

But bins in a local elevator cost more than storage facilities at the diversion point or at the terminal, and they may not all be needed every year; according to the size of the wheat crop. It is a waste to build storage space not needed every season. Most local elevators don't do enough business to warrant them having commercial driers, so they have to ship wet wheat as fast as possible.

That is also one trouble with storing on the farm; there are no facilities for conditioning the grain on the farm. Then, too, if the roads are bad you can't move it to market when you do get ready to ship. You have to shovel the wheat from a truck into the farm storage bins and then later shovel it back into the truck. That extra handling means added expense. And while the grain is stored on the farm it is not as good collateral for loans as it is stored in a public warehouse.

On the other hand, building farm storage is cheaper than local country elevator storage. It helps prevent congestion by holding back the flow of wheat in the harvest season, permits shipping to the best market, and preserves the identity of high quality country run wheat.

There you have the chief advantages and disadvantages in storing at home, at the local elevator, at the diversion point, and at the terminal market. "The problem will never be solved if it is taken for granted that any one of these types of storage is ideal. All types of storage, farm, country, and terminal must be developed together. Each is a necessary part of the system."

ANNOUNCEMENT: You can get copies of the discussion of the wheat grower's storage problem by writing to the Federal Farm Board, Washington, D.C. The main points in that discussion to which you have just listened are presented by Station ----- in cooperation with the Federal Farm Board and the United States Department of Agriculture.

~~W.F.B.~~
~~W.F.B.~~

★ MAY 6 1930 ★

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON

Friday, May 3, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Dairy Interview No. 34: CARE AND MANAGEMENT OF THE DAIRY BULL

ANNOUNCEMENT: Dairymen and dairy breeders often declare that the quality of the country's future dairy herds depends to a great extent on the country's dairy sires. Many of them go so far as to say that the sire is half the herd. With this in mind Your Farm Reporter brings you today a report on the care and management of the dairy bull. He's going to tell you now about his interviews with Mr. W. E. Wintermeyer, a specialist in dairy herd improvement in the United States Department of Agriculture. All right, Mr. Reporter..

A home-town friend of mine once asked the town humorist which was the worst, a collision or an explosion.

"Well, I'll tell you, Jim," came the reply, "I'd take the collision every time. You see, in a collision, there you are. But in an explosion, where are you?"

Now I'll always remember the one and only run-in I ever had with a bull. I emerged with nothing worse than a tear in my Sunday pants, and I got that because I was a poor high-jumper. But that was enough to convince me that in dealing with bulls, one should be sure just where he is, and just how he stands. I'm better at jumping at conclusions than I am at jumping fences, and I concluded then and there that the old saying was true---there isn't any such animal as a tame bull.

I recalled this vividly as I read a letter Mr. Wintermeyer received a few weeks ago. The letter contains just 25 words and only 2 sentences, but it tells a long story. Those 25 words pack a double-barreled punch.

"Dear Sir," it says, "Mr. M. aged 40, father of family, killed by a 'tame' bull this week. Please forward copies of your blueprints for 'safe-keeper' bull pen. (Signed, W.O., County Agent.)"

However, the point, as Mr. Wintermeyer interprets it, is not merely that a safe bull has never been born. There's another angle. Farmers sell many valuable bulls because the bull develops a prima-donna temperament. And very often they sell them before they really know how valuable the bulls are, through comparing records of daughters and sons.

Now Mr. Wintermeyer thinks this is often a wasteful practice. As a matter of fact, bulls that seem dangerous, actually harm fewer people than so-called tame ones. You rarely hear of the mean-tempered bull killing his keeper, but the record is full of cases where "tame" bulls have become vicious at a moment's notice.

So the sensible way, it seems, is to consider all bulls dangerous and base your judgment of them, not on their disposition, but on their performance.

"Treat all bulls as possible trouble-makers," Mr. Wintermeyer recommends. "Play safety-first and take no chances, and you needn't worry about any of them."

"Just what do you mean by safety-first?" I asked.

"Now," he replied, "you're bringing up the whole question of the right kind of housing for a bull. So let's start at the beginning and take a bird's-eye view of the whole business of managing a bull."

"First, of course, you want to select a good bull. If he's a young bull or a calf you'll want to see that he's well grown. And if he's a calf, you'll want to pay particular attention to feeding. Many dairymen don't wean calves until they're 6 or 8 months old. At 3 months, though, it's well to begin giving the young bull some grain, as well as access to good legume hay."

"Here's a good grain mixture: 200 pounds of bran, 300 pounds of ground oats, 100 pounds of cornmeal, and 100 pounds of linseed meal. Then supplement this with alfalfa, clover, soybeans or cowpeas, and perhaps silage."

"The idea is to get a well grown calf and then to keep him growing so he'll be ready for light service when he's one year old."

"In fact the whole point of care and management is to keep good bulls good. I've seen many a fine young bull fail to measure up to his possibilities because of improper care."

And about your safety-first question," he went on. "The first thing, of course, is to put a ring in the bull's nose, when he's about a year old, to make handling both safer and easier."

"But the main object is to keep the bull in service until he can be proved, which means 5 years at the least. And to do this, one of the most important factors is a bull pen and yard of the right kind. A profitable bull must be well housed and he must have plenty of exercise. Don't compel a bull to stand constantly in a small stall without exercise. Under such conditions you can't blame a bull for becoming vicious, and such treatment may even ruin him as a breeder."

"Farmers generally follow one of two plans," Mr. Wintermeyer continued. "Some keep the sire in a special stall in the main barn with the cows, with a door opening into a strongly fenced yard. Others keep him in a separate specially-constructed building, also with a yard."

"In either case you'll want to consider the following main points."

"First, safety and ease of handling. Make the bull pen strong enough to hold the most vicious bull with safety."

"Second, locate it so that you can give the bull the right kind of care and attention without waste of time."

"Third, see that the bull's quarters are well lighted and well ventilated. In warm climates the quarters may be open on the south side, this makes them light and dry.

"Fourth, build stalls and pens so they're easy to clean.

"Fifth, build the stall large enough to allow the bull to move around freely. The usual size is 12 feet by 12 feet, but it may be larger, depending on how much room you have.

"Sixth, arrange the doors so you can let the bull in or out without having to enter the pen.

"And seventh, install a strong stanchion or tie as well as a feed manger and a feeding alley. As a safety-first measure, the stanchion should be made of heavy timber or iron. The manger should be strong and securely fastened so the bull can't loosen it and move it around. The feeding alley is essential, because it allows you to feed the bull without entering the stall, and it also provides a place for storing feeds."

"And how about the yard?" I put in.

"Well," he replied, "in laying out the yard, see that it is well drained and that it is large enough to allow exercise. If there's plenty of available space I'd suggest that 1500 to 2,000 square feet of space be allowed. However, even in large yards some bulls will not take exercise. In such cases it may be necessary to provide a treadmill, or to lead the bull around, or even to put him to work.

"It's in the fencing, of course, that safety-first comes in for special emphasis. Build the fence so strong that the bull can under no circumstances break through, and so high that he can't jump over--most fences are 5 to 6 feet high. Farmers use many different materials, but the most common are woven wire, barbed wire, planks, iron piping, and concrete. The type of fence depends on the kind of material, convenience and cost."

Now, as Mr. Wintermeyer says, this is just a bird's-eye-view of the business of managing dairy bulls. You can, however, get detailed information on all these points he mentioned by writing to the U. S. Department of Agriculture for Farmers' Bulletin No. 1412-F, entitled "Care and Management of Dairy Bulls." You can get this bulletin free as long as the supply lasts.

ANNOUNCEMENT: Send your requests for that bulletin to Station____ or direct to the Department of Agriculture in Washington. The title is "Care and Management of Dairy Bulls," and the number is Farmers' Bulletin 1412-F. Monday at this same hour Your Farm Reporter will be back again, with a report on livestock.

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YOUR FARM REPORTER AT WASHINGTON

Monday, May 12, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

All Regions.

THE SUMMER CARE OF FARM HORSES

OPENING ANNOUNCEMENT: "The summer care of farm horses." That's what Your Farm Reporter is going to talk about to-day in one of the regular Farm Reporter Programs which come to you five days in every week, through the cooperation of the United States Department of Agriculture. All right, Mr. Reporter, let's go.

---ooOoo---

Well folks, I want to talk to you to-day about taking care of the horse that pulls the plow on many of the six million farms in this country. This is the 12th day of May and if you should take an airplane trip over the country at this season of the year you could look down on millions of horses and mules preparing the soil for the crops that are to feed and clothe us another year.

I'll admit that this is a day of automobiles, airplanes, radios, and machine farming, and that these things are wonderful and have a place on many farms, but I would also like you listeners to remember that the horse is still responsible for much of the farm crop production in this country.

"Old Dobbins" still plays his part in the New England orchards, the lazy mule continues to flop his ears in the southern cotton fields, while modern draft horses keep up their steady pace in the great Corn Belt. Many of the western farmers have so much land that they use everything from horses to airplanes, and even then seldom see the back side of their farms and ranches.

In the final analysis we find that "Old Dobbin" and his kinfolks play an important part in the production of our corn, cotton, tobacco, sweet-potatoes, and other farm crops.

I made an investigation last week in behalf of the American horse, and tried to find out what kind of care and treatment a farm horse ought to receive, especially in the spring of the year when he is breaking into the summer work campaign of long days and hot weather. I wanted the latest information on that subject so I went over and had a talk with Mr. J.O. Williams, who is in charge of Uncle Sam's horse husbandry office.

I asked Mr. Williams how many horses and mules we had in this country, and now I'm wondering if you could answer that question.

"Well," he said, "I haven't counted them all since New Year's day in 1929. At that time there were estimated to be about 14,000,000 horses on the farms of

this country, and nearly five and a half million mules, or a total of nearly 20,000,000. That's an average of about 3 horses per farm for the six and a half million farms listed in the 1920 census report."

Next I asked Mr. Williams if horses should be conditioned for the spring farm work.

"Yes, indeed," was his quick reply. "You see," he continued, a horse that has been idle most of the winter is comparable to an automobile that has been standing under the shed for about a month. It may be all right to make a long trip in the car, but it would be wiser to look over the machine, fill the radiator, inflate the tires, examine the oil, and then get in the car and drive it around the farm a few times to get it limbered up before you put her in high out on the highway.

"Now it may be all right to take the unseasoned horse out of the spring pasture and put him to plowing in the orchard, in the corn field, or elsewhere, but it would be much better to condition him a week or so before he is called on to go up against the collar from sunup to sundown."

"What do you mean by conditioning a horse?" was my next question.

"Well," he said, "farm horses need to be broken in to spring work slowly, their feed and water need to be adjusted to the work, and shoulders and backs should be carefully watched and not allowed to become sore before they are tough enough to stand up all day under a heavy load. That's what I mean by conditioning a horse for spring work."

Here's the outline Mr. Williams gave me for conditioning horses and getting them ready for spring and summer farm work.

"We'll start with the man," he said. "When a man has the ability to keep horses in good condition so that they are ready when needed, he is a good horseman. Such a man usually keeps horses in a clean, dry stable, knows the individual requirements of each animal, and keeps them in good physical condition."

A clean stable, a clean horse lot, and a clean pasture will all help to keep the horse's feet in good healthy condition, and the horse must have good, sound feet for best results.

Horses may be fed large quantities of roughage during the winter months when they are idle but this should be reduced and supplemented with concentrates gradually as the horse is put on farm work in the spring. The use of large amounts of roughages during the work season should be limited to periods of rest.

The amount of grain and hay required by the farm work horse depends, among other things, on the kind, regularity, and speed of the work performed.

Next, place horses in the hitch where they will be most efficient and best satisfied. Slow horses should be placed at the "wheel" and fast horses should be put in the lead. If this order is reversed, it upsets the whole team, and the driver, and sometimes the work.

Try to have a harness for each horse. Fit this harness to that horse and use them together throughout the season if possible. Keep the harness in good condition, make adjustments when necessary, and try to make the horse comfortable, especially when working.

Watch the shoulders when the horse starts work in the spring. If these are toughened up slowly without injury, you can call yourself a good horseman. If the horse is rushed to work in the spring and his shoulders become sore, you can call yourself whatever you please, but a horse with a sore shoulder in the spring of the year when the plowing is behind is often worse luck than a black cat crossing the road in front of you.

When the harness is taken off, wash the horses shoulders with warm water and castile soap, and rinse with cold water to which a small amount of salt has been added. This treatment may be discontinued after two or three weeks, after the shoulder muscles have hardened and the winter hair has shed off, but careful daily grooming and cleaning of the collar are always required.

A little shoulder attention in the field is time well spent. Raise the collar frequently and clean the sweat, dirt, and dead hair from both the shoulder and collar. Lift the collar forward on the neck and leave it there for a few moments, so that the shoulder surface may cool off. It is especially important that the neck and shoulders be cleaned and given a chance to dry and cool off during the noon hour.

A horse should have sound feet. Shoeing work horses is not necessary at all times or on all farms, but the feet should be kept trimmed and in good condition so that the horse will be comfortable and can hold his footing without stumbling and falling. Shoeing is always necessary if much road hauling is done.

It is good horse management to "float" or file the teeth when necessary. A veterinarian should be consulted relative to this matter. Bad teeth often result in indigestion, and this upsets the system, and that puts a horse out of commission, often when he is badly needed.

Now folks, I'll have to saddle my horse and go on home because my time is up, and because I have other work waiting for me at home, but I have not covered one-tenth of the valuable information Mr. Williams gave me on breaking horses in to the spring and summer work campaign.

I am sure many of you listeners will want more information on this valuable subject, and if you do, I'm going to ask you to write me in care of this station and ask for Farmers' Bulletin No.1419-F, "CARE AND MANAGEMENT OF FARM WORK HORSES," and Farmers' Bulletin No.1535-F, "FARM HORSESHOEING." In closing I would like to say that Farmers' Bulletin No.1419-F contains information that, if followed, should prevent sore shoulders in 95 cases out of a hundred.

CLOSING ANNOUNCEMENT: You have just listened to one of Your Farm Reporter programs broadcast from Station _____ in _____ through the cooperation of the United States Department of Agriculture. If you want the two bulletins mentioned, Farmers' Bulletin No.1419-F, "CARE AND MANAGEMENT OF THE FARM WORK HORSE," and Farmers' Bulletin No.1535-F, "FARM HORSESHOEING," write this station, or to the United States Department of Agriculture, Washington, D.C.

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial data. This includes not only sales and purchases but also expenses and income. The document further states that regular audits are necessary to verify the accuracy of these records and to identify any discrepancies. It also mentions that proper record-keeping is essential for tax purposes and for providing a clear picture of the company's financial health to stakeholders.

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YOUR FARM REPORTER AT WASHINGTON

Tuesday, May 13, 1930.

Crops and Soils Interview No. 35:

Farm Fires.

ANNOUNCEMENT: Your farm reporter at Washington is here. Instead of bringing us a report from the scientists of the U. S. Department of Agriculture, he is asking some of us to report to them. It seems they want our help to help solve one of our big farm mysteries.----- You tell them about it, Mr. Reporter --

Yes, we want your help to solve the big Barn Fire Mystery.

The barn burned. That is certain.

Who set fire to it? --- We don't know. Our farm-yard detectives are plainly puzzled.

At first, we thought it might be just an accident. Maybe one of the boys had been smoking in the barn. They all swear not. Somebody suggested that one of them might have dropped a match. Maybe a mouse nibbled the match.---Such things have happened.----- But they all tell pretty straight stories. They claim they have been awfully careful about such things.

We thought we had a clue when one of the neighbors said he saw a tramp about the place. But we came to find out that was weeks before the fire.

If it was just this one barn, it wouldn't be so bad. But there has been a series of these barn fires started in some strange, unknown way. Such mysterious barn fires have been happening for years. Fact is, when we can't find any other cause, we just say "spontaneous combustion" and let it go at that. It goes, all right. The barns go up in smoke, that is.

And the worst feature of it is, that here in recent years the number of mysterious barn fires has been on the increase.

Mr. David J. Price, chief of the chemical engineering division of the U. S. Department of Agriculture, has been investigating these mysterious fires. He scouts the theory that any pyromaniac is going through the country setting barns on fire just to see them burn. He does say, however, that many of them bear the earmarks of having been started in the same way. They are evidently "inside" jobs!

He even admits that the evidence indicates that most of these mysterious fires are self-starters. He holds, however, that they are not as "spontaneous" as some folks think. They don't just happen. There must be a cause for them. Fact is, the heating of hay is pretty well established

as the main cause. But why does the hay heat? Under what conditions does it get so hot, it sets fire to the place? What is the effect of putting salt on the hay? There are a number of questions yet to be solved before we clear up this barn fire mystery.

This season the engineers of the United States Department of Agriculture are going to study this mystery under actual farm conditions. The Department has a new experimental barn on its farm at Beltsville, Maryland. They are going to try to find out just what conditions make hay heat up to barn-burning temperatures.

There is real money involved in this Barn Fire Mystery. It has been estimated that the loss due to such self-starting farm fires runs up to thirty million dollars a year. That is the direct fire loss. If you add the hay and grain spoiled by heating when fire doesn't break out, you get many million more. That seems like a big loss. But the loss will seem even bigger to you, if your barn is among those burned and your hay a part of that damaged.

Another thing the Department scientists will study is the feeding value of the hay during heating as well as the feeding value of the hay treated with salt.

There are so many ramifications to this barn-burning question that Mr. Price and his fire-men have their hands full. They don't expect to settle all angles of the mystery by work in any one barn.

If your barn should happen to burn, or if you should happen to have any experience with hay heating of its own accord, help save others and yourself from future losses by reporting your experience to the United States Department of Agriculture. Give all the circumstances in your report.

In order that you may do effective work in helping solve the big-barn-burning mystery, let's go over the main facts now known about self-starting fires in hay barns. They may not only help you in making your report, but may help save you from this Farm Fire Demon.

All the evidence seems to indicate that such hays as alfalfa, and the clovers, and the vetches, are more liable to produce self-starting fires than timothy and other grass hays.

That seems to explain why we have more barn fires than we used to have. We use more legume hays.

But these hays are more likely to heat and start fires when they are stored before they are properly cured. Or if they are wet from rain or dew when you put them in the barn or in the stack.

The stems of alfalfa and clover hays are big and juicy. Unless they are cured rather slowly and unless there is good drying weather, they will go into the stack or into the barn with considerable moisture in them. That is favorable for heating; which may go so far the hay will burst into flames and set fire to the barn. If there is not enough space between the barn and the house, the house may go too.

It may seem strange that moisture will help start a fire. Yet that is what happens. During the floods a few years back in New England there was a striking example of that. The rising waters wet hay in a barn. Then, before the flood had entirely gone down and while the lower part of the barn was still standing in water, the hay caught fire and burned the barn up.

Yes, moisture or wetness is one of the chief parts of the self-starter for many a farm fire. Be careful to properly cure your hay before you store it. If conditions are such that is impossible, add salt to the damp and poorly cured hay as you put it in the barn or in the stacks.

A hay stack burning may not cause the loss of any valuable buildings, but it may ruin a lot of hay. We don't hear so much about hay in stacks burning. But the losses are considerable, so Mr. Price tells me.

As soon as you store hay in the barn, ventilate it as freely as possible. And after it is stored, inspect it often if it is at all suspicious. Run your hand down in the hay. If the hay a few feet from the surface is too hot to hold your hand in it, better examine the pile thoroughly to find out how near the heat is to the center of the stack. If you find any unusual heating condition, get in touch with the State or Federal authorities.

Sometimes hay goes into the barn dry, but a leak in the roof or in the sides may wet the hay. Look out for leaks. Remember water may set the self-starter going and your barn may burn down as a result. That is one important thing we do know about this great farm fire mystery.

* * * *

ANNOUNCEMENT: Don't fail to report any experience you may have with hay heating or barn burning. Report to the United States Department of Agriculture at Washington, D. C. Station _____ is doing its part in fighting these fires, by cooperating with the Department in calling for your help.

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YOUR FARM REPORTER AT WASHINGTON

Wednesday, May 14, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Poultry Interview No. 35: COSTS OF RAISING CHICKS

ANNOUNCEMENT: What does it cost you to produce poultry?---How much, for instance, does it take to raise a pullet to laying age? This seems to be a big question this year. Prices are low and we need economical production to make profits. Your Farm Reporter has been talking it over with his friend A. R. Lee, of the Department of Agriculture, and now he's going to bring you a report on the costs of raising chicks. All right, Mr. Reporter.

Well folks, accurate cost-of-production figures are not among those things that the poultry industry has nothing else but. That's about the first thing I found out. In fact, Mr. Lee says, one of our big needs is for reliable records.

This reminds me of a story, which a friend of mine tells on his wife. My friend says he was checking over the family account book, and he found one figure that disturbed him. In fact, he was much disturbed. He called his wife.

"Look here," "Mary," he said, " This record shows that that car of yours is costing us \$500 a year."

"Well," Mary came back, "You arn't blaming me, are you? Didn't I advise you not to keep that old record-book?"

It seems that Mary went on the theory that what you don't know won't hurt you. Once in a while this theory may work, but as my friend says, don't trust it. Taking chances that what we don't know isn't hurting us, is not generally considered good business.

However, I didn't come here today to talk about record keeping. Mr. Lee tells me that all of you up-to-date poultry raisers keep records, anyway. Keeping business records and determing actual costs of production are slightly different matters. Practically all of you can keep track of how much money you've spent, what you've spent it for, and how much you've got in return. But when it comes to separating these costs, and figuring in labor and so on, you run into a difficult job.

The three important items in the cost of raising poultry, according to Mr. Lee, are feed, labor and fuel. Now we have very few reliable figures on labor

and fuel, but we do have some on feed.

For instance, the Pennsylvania State Experiment Station has carried on tests with White Leghorn pullets. The pullets averaged just a fraction over 3 pounds at 19 weeks of age and up to that time they ate 15 pounds of feed. At 24 weeks, or mature age, they had eaten 20 pounds of feed apiece.

Now Barred Plymouth Rocks naturally need a little more than this, because they weigh more. At 19 weeks of age the Rocks weighed 3.7 pounds and had eaten $16\frac{1}{2}$ pounds of feed. It took 23 pounds to bring them to maturity, at 24 weeks of age.

Indiana and Connecticut also furnish some interesting figures. From their results you get these conclusions:

First: To raise White Leghorns to maturity, it takes from 20 to 25 pounds of grain feed.

Second: to raise Rhode Island Reds, Plymouth Rocks and other general purpose breeds to maturity, it takes from 25 to 30 pounds.

I have in my hand a table prepared by the Pennsylvania experiment station showing feed consumption of White Leghorns and Plymouth Rocks raised in confinement.

During the first 4 weeks the Leghorns consumed 1.16 pounds of feed apiece and the Rocks 1.1 pounds. During the second four weeks the Leghorns ate almost 3 pounds and the Rocks slightly more than 3 pounds. The difference becomes greater as the pullets get older. During the final 4-week period before maturity the Barred Plymouth Rock pullets ate $5\frac{1}{2}$ pounds of feed and the White Leghorns slightly more than $4\frac{1}{2}$ pounds.

Now it might be interesting for you to check up and see how your feeding practices tally with these figures. But there are other factors affecting cost of production. And probably these others are of more immediate interest. Getting rid of cockerels, for instance. It's time to be thinking about disposing of them. Generally, says Mr. Lee, it's advisable to sell cockerels as broilers. With Leghorns this means when the cockerels weigh around a pound and a half, and with the heavier breeds, about 2 pounds.

"Get rid of the cockerels at an early age," Mr. Lee advises. "This gives your pullets a much better chance to develop and it prevents a tendency to overcrowd your growing houses. Overcrowding is a common fault in many poultry flocks. Keeping cockerels past the broiler stage also increases your feed cost."

Then there's mortality. This is another very important factor in cost-of-production. If you're fortunate enough to raise approximately 100 per cent of your chicks to the broiler age---well, the cost per chick is naturally much less than where the mortality is 25 to 30 per cent. And, as you know, such high mortality is not at all uncommon.

"To raise broilers profitably," Mr. Lee told me, "the mortality should not exceed 10 per cent. It should be below 10 per cent."

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After 12 weeks, you know, the mortality is usually very low, Most of the deaths from disease and accident come before the chicks are 12 weeks old. So assuming the mortality is under 10 per cent up to 12 weeks, you should be able to finish the season with not much more than a 15 per cent loss, at the most.

Now if chicks come from good breeding stock and if conditions in the brooder house are right, there shouldn't be much trouble with cripples. However you sometimes see as much as 10 to 25 per cent of battery chicks made up of crippled chicks. Thus the percentage of crippled and deformed chicks also affects cost of production, and consequently the profits.

Liberal feeding pays, says Mr. Lee. "You get the best and cheapest growth in the long run," he declares, "from liberal feeding of a ration containing all the necessary ingredients."

Remember, the five essentials in successful feeding are the following: Grains and grain by-products; protein concentrates; minerals; vitamins; and direct sunlight or its equivalent.

The farmers' bulletin on feeding poultry is No. 1541-F. And there's a new bulletin out called "Business Records for Poultry Keepers." The number is Farmers' Bulletin No. 1614-F. You can get copies of both bulletins free as long as the supply lasts.

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ANNOUNCEMENT: Write for the two bulletins Your Reporter mentioned in care of Station_____ or in care of the United States Department of Agriculture in Washington. The bulletin entitled "Feeding Poultry" is Farmers' Bulletin No. 1541-F, and "Business Records for Poultry Keepers" is Farmers' Bulletin No. 1614-F.

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YOUR FARM REPORTER AT WASHINGTON.

Thursday, May 15, 1930.

COOPERATIVE INTERVIEW NO. 35:

Inside an Egg Co-op.

ANNOUNCEMENT: Your Farm reporter at Washington reports each week on the work of the cooperative division of the Federal Farm Board. Before that division was taken over by the Board, its specialists made an analysis of an important poultry co-op. The results of that investigation have just been made public by the United States Department of Agriculture. Your farm reporter thinks some of those results may furnish food for thought for other egg producers and other co-op members.

This is the inside story of what the members of a co-op expected their association to do for them, and what it did. It has to do with eggs, but there seems to be a lot of meat in eggs for other co-op members.

The investigators in this case carried their questions straight to the members of the organization. They checked up the members' ideas with the books of the co-op. In fact, they analyzed the whole business from hen yard to market. The association was the Poultry Producers of Central California, made up mostly of owners of poultry flocks of from 500 to 2,000 and more hens. About half the members depended on poultry for their entire income.

The association is a nonstock, nonprofit co-op of the centralized kind. It gets its working capital from a small take-out on sales. The members contract directly with the central. There are no locals, but the association does have branch offices, located at strategic points to make delivery, and to make grading and shipping easier and to perform other services for the members.

The co-op was formed at a time when the production of eggs in central California was beginning to get ahead of the local market demand. The California egg men were faced with the problem of developing a market for their product in the East. It was up to them to prepare their eggs for market so they could be shipped long distances and arrive in condition to satisfy the customers. They had to establish trade connections and stimulate the demand for California eggs in markets in which they were practically unknown.

Possibly new outlets for Pacific coast eggs would have been developed without the co-ops. But the experts who have studied the situation question whether such outlets would ever have been developed as fast or as efficiently as they have been by the association.

From their talks with the members themselves, the specialists found that the chief thing the co-op members expected of their association was to get them a sure market at fairly steady prices - prices higher than they were getting.

Those who expected a sure market seemed to have grasped one of the fundamental differences between depending on a farmers' co-op and on a cash buyer as a market outlet. The co-op is always ready to accept and market the products of its members to the best of its ability. The cash buyer, on the other hand, will take and market stuff only when it is to his own financial advantage to do it. Often, at certain periods, he is unwilling to buy some commodities at all because of the risks; or, if he does buy, it is at a price far enough below the market to insure himself against loss in case prices should go down.

The question of a co-op getting its members a sure market, brings up the question of the members furnishing the co-op a steady supply of produce to handle. To develop a satisfactory sales program, any co-op should know about how much and what grades the members will deliver.

Getting full and consistent delivery from all members is one of the most important problems of any marketing association. In general, it is only the satisfied and loyal members who can be depended upon to make full deliveries. In the case of the Poultry Producers of Central California, the government experts studied out the figures. They separated the regular deliveries from the off-and-on shippers. They found that just a little over half the members didn't miss more than one week in the year delivering eggs to the association. But they discovered that the half who delivered consistently supplied three-fourths of the eggs. Evidently it is the small producer who tends to be the part-time deliverer. However, some of the big producers who sold baby chicks and pullets and eggs for hatching were in that same class.

The investigators went back over the records, and found that in recent years, there have been changes in the quality of eggs, to meet market requirements. There is a definite tendency to rely largely on pullet production during the late fall and early winter, when prices are higher and fresh eggs hardest to get. The producers insist that pullets are the only birds which can be depended upon to produce late fall and early winter eggs. To get those high prices, the producers have evidently adjusted their chicken raising so as to have as many fresh eggs as possible for sale in the fall.

That was one of the things, the association got over to its members. Another thing it did, of course, was to establish standard grades. You can not get steady prices and quality prices until you have definite quality grades or standards which mean the same thing one time as they do another.

The Poultry Producers of Central California, working with other western associations, has also developed an organization for entering the New York City and other eastern markets, and even foreign markets. Whether or not that co-op has succeeded in getting its members a sure market at steady satisfactory prices, the investigators hold, can best be decided by the membership figures. The association has grown steadily. The producers seem, on the whole, pretty well satisfied that their co-op is doing a good job for them.

The cooperative division's experts who have made a study of this and other organizations say that this close touch with the member is well worth the attention of every big co-op. After all, the members are the co-op.

ANNOUNCEMENT: This talk to which you have just listened is one of a series from Your Farm Reporter at Washington. In presenting this feature, Station _____ in cooperating with the Federal Farm Board and the United States Department of Agriculture. Any one interested in the relationship of the Farm Board to the co-ops or anyone who has any questions about the Board may find them answered in Circular No. 1, which can be had by writing for it to the Federal Farm Board, Washington, D. C.

* * *

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The document also outlines the responsibilities of the accounting department in ensuring that all transactions are properly recorded and reported.

Conclusion

In conclusion, the document highlights the critical role of the accounting department in the organization. It stresses the need for a strong internal control system and the importance of regular audits to ensure the accuracy and reliability of the financial statements. The document also provides recommendations for improving the efficiency and effectiveness of the accounting process.

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YOUR FARM REPORTER AT WASHINGTON.

Friday, May 16, 1930.

NOT FOR PUBLICATION

SPEAKING TIME: 10 Minutes.

Dairy Interview No. 35: PLANNING CROPS FOR NEXT WINTER'S FEEDING.

ANNOUNCEMENT: At this time Station _____ presents Your Farm Reporter at Washington, for his regular Friday report to dairymen. He brings to you today some tips on planning crops for next winter's feeding. We can't forget about winter, it seems, even in the middle of May. How about it, Mr. Reporter? What have you learned this week?

---ooOoo---

When the summer's sun is shining, don't forget to put something by for that wintry day.

This, in brief, is the dairy idea of the week, as I gathered it from my talk with Mr. J. B. Shepherd. Mr. Shepherd is a Department of Agriculture dairy specialist in the Bureau of Dairy Industry. Some of you may know him already as the author of a new bulletin, called "Dairy Farming for Beginners," Farmers' Bulletin No. 1610-F. If you're a newcomer in the dairy business you'll probably want a copy of this bulletin.

In explaining what I wanted to know, I asked Mr. Shepherd if it wasn't rushing the season a little bit, talking about winter feed in May.

"No indeed," he replied. "I think you'd find that many of your radio listeners are already planning for next winter. If they aren't, there's still time to make plans, but they shouldn't put it off much longer. They may have to change these plans later on, but they can cross that bridge when they come to it.

"The main thing," he said, "is to figure how much feed you'll need, pick out the right kinds of feed, and then be sure that you grow plenty of them. Take no chance on holding down normal winter production through lack of feed, or through lack of the right kinds of feed. And the time to think about these feeds is right now."

"What do you mean by the right kinds of feed?" I asked.

This question brought a smile. "Well," said Mr. Shepherd, "the answer to that would make quite a story. There are a good many things to be considered.

"I might say in beginning, that home-grown feeds are generally the cheapest and the best. It generally pays to provide your own hay, silage, and grains as well as your own pasture -- and to buy only the high-protein feeds necessary to balance your home-grown grains.

"Then, you want to select crops adapted to your locality -- crops that yield well -- and crops that fit in with your rotation. And finally, you'll want the crops that help keep up the fertility of the soil. All these points should be borne in mind in planning crops for feed.

"You see, so much depends on just where your radio listeners live. Good advice concerning feed crops can be secured from the local County Agent or the Extension Service of the State Agricultural College."

"Well, in general," I put in, "what should the winter ration include?"

"In general," came the reply, "the good winter ration includes at least one hay -- and legume hay is preferred -- one succulent feed, and grain. Now, in figuring on the amounts, you might note these suggestions. We figure on giving cows all the good hay they will eat twice a day. The amount they'll eat, of course, depends partly on your other feeds. If they will eat corn stover or straw in addition, there's no objection to letting them have it. If you give them a medium feed of silage, they'll probably eat from 1 to 1½ pounds of good hay for each 100 pounds of live weight. Without silage they'll usually eat around 2 pounds of hay a day on the same basis.

"Now as to silage. The amount ranges from 20 to 50 pounds a day. It depends on the size of the cow and on the quantity of other roughages. If hay is scarce or high in price, reduce the amount of hay and feed more silage. The usual quantity of silage, though, is about 3 pounds per day for each 100 pounds of live weight."

I think you might be interested in the way they feed at the experiment farm of the Bureau of Dairy Industry located near Beltsville, Maryland. Mr. Shepherd says each cow gets the 3 pounds of silage for each hundred pounds of her weight. Then twice a day the cow gets all the good legume hay she will eat. The grain feeding depends on the breed. For instance, the Jersey cow which produces 10 pounds or less of milk a day gets no grain at all. For every pound of milk over 10 pounds she gets six-tenths of a pound of grain. Holsteins are fed no grain unless they produce over 16 pounds of milk, and for every pound over 16 the Holstein cow gets four-tenths of a pound of grain. And so on with Guernseys and Ayrshires. You can get more information on this subject from the Farmers' Bulletin called "Feeding Dairy Cows," number 1626-F. This is another new bulletin. In fact it was printed only last month, and it contains all the latest information on feeding practices. Mr. Shepherd recommended that you write for it if you're interested in better feeding.

Speaking of silage crops, he says that corn is the best crop where it grows well. Sorghums are preferred in a few sections, where their high yields more than balance the better quality of corn silage. Where it's too cold for corn, sunflowers, or oats and peas grown together, make satisfactory substitutes.

I asked about mixtures of corn or sorghum with a legume crop, such as soy beans.

"I wouldn't recommend it ordinarily," he declared. "Don't mix corn and legumes, except under conditions which don't permit curing of the legume for hay. In the first place the mixture is no more palatable than corn alone, and it yields no more than corn alone. You can generally make legumes into hay more cheaply than you can convert them into silage."

Now, perhaps you have an acid soil. So, although you'd like to grow alfalfa for instance, you're growing timothy. Mr. Shepherd says this happens in some parts of the country. And he says to remember this: Both crops require fertile soil for large yields, and all you need to do in addition to grow alfalfa successfully is to properly lime the soil and inoculate the seed. In most cases, he declares, this would be the profitable thing to do, except in those regions where long experience has demonstrated that timothy hay is the most satisfactory roughage to grow. A good legume hay is almost necessary to a good dairy ration. And in addition it helps improve your soil. For information in regard to quantities of lime to use and proper methods of liming the soil and inoculating the seed, consult your local county agent or the soil and crop specialists of your State extension service.

Now, in the beginning, Mr. Shepherd mentioned that plans made in the spring may have to be altered in the summer and fall, and even winter. You can't foresee drought, or floods, or poor seed germination, or winter-killing of legumes. So in planning, the dairy farmer must also watch out for emergencies. He must be prepared to plant emergency crops.

As Mr. Shepherd says, the dairyman is something like a general in a campaign. He must lay his plans carefully in advance. And then he must be ready on a moment's notice to take other steps in case any of the original plans go wrong.

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ANNOUNCEMENT: Your Farm Reporter today mentioned two new dairy bulletins. They are "Dairy Farming for Beginners," Farmers' Bulletin No. 1610-F; and "Feeding Dairy Cows," Farmers' Bulletin No. 1626-F. Send your requests to Station _____ or to the Department of Agriculture in Washington, D. C.

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★ MAY 14 1930 ★

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.

Monday, May 19, 1930.

A.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

All Regions.

PLANTS POISONOUS TO LIVESTOCK.

OPENING ANNOUNCEMENT: Certain poisonous plants kill thousands of animals every year. Your Farm Reporter has just interviewed Dr. C.D.Marsh who has charge of poisonous plant investigations for the United States Department of Agriculture, and he is going to tell us about some of these plants at this time. All right, Mr. Reporter.

---ooOoo---

Well folks, our subject to-day is-----POISONOUS PLANTS. It is estimated that three per cent of all livestock on western ranges are killed every year by eating poisonous plants. Of course the proportion is smaller---much smaller---in the East, but poisonous plants scattered throughout the country cause some losses in nearly every region.

In addition to killing livestock, some of these poisonous plants affect members of our families, and that is surely sufficient reason for every individual to acquaint himself with the poisonous-plant situation. The United States Department of Agriculture has spent years in scientific research on stock-poisoning plants, and now has prepared publications for you on the most deadly and dangerous of these plants. Get your paper and pencil ready now to take down the bulletin numbers which will be given in this talk.

By the way, most of you radio listeners are familiar with poison ivy. It doesn't poison livestock, but you know what it does for people. Farmers' Bulletin No.1166-F, entitled "POISON IVY AND POISON SUMAC AND THEIR ERADICATION," is full of practical information on these two poisonous plants, and this bulletin ought to be in the library of every farm home. Do you have your copy?

I thought many of you radio listeners would be interested in this poisonous-plant subject, especially during the spring season when so many plants are sending forth new buds, green foliage, and otherwise inviting animals and even people to investigate and taste them. In order to get the latest information on this subject I went over and had a talk with Dr. C. D. Marsh, in charge of investigations of stock-poisoning plants for Uncle Sam's Department of Agriculture.

I found the walls in Dr. Marsh's office literally covered with pictures portraying animals affected by eating poisonous plants. Most of the pictures showed the animals dead; a few, however, revealed the agony and misery some poisonous plants produce when eaten in sufficient quantities by

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animals. Dr. Marsh, who, by the way, has been connected with this work for a quarter of a century, relates most interesting stories of these various poisonous plants.

I asked Dr. Marsh if livestock relish these poisonous plants.

"No," was his reply. "On the contrary, most of the poisonous plants are distasteful to livestock. They eat them only when forced to it by lack of other feed and forage. For example, that is true of poisoning by mountain laurel, sheep laurel, and buckeye. Animals may graze where these plants are abundant week after week and year after year with no harm, so long as grasses and other food forage are present, but, in poor pasturage, they eat anything they can get, including toxic plants. The scriptural injunction "feed my sheep," with the emphasis on FEED, can well be remembered by farmers and stock raisers."

We had not discussed the poisonous-plant situation very long until I realized that the losses are much greater than I had ever dreamed, and that there were many plants responsible for these losses. Some of these plants come along in the fall of the year; some are present all the time; and some are especially active in the spring of the year.

I try to give you radio listeners timely material, so I'll discuss in this talk the more important poisonous plants that are likely to produce trouble at this season of the year. Later on, I'll go back to Dr. Marsh and get some more information about the poisonous plants that are most troublesome in the late summer and fall.

Larkspur or "poison weed," probably kills more cattle in the cattle ranges of the West than any other poisonous plant except the loco weeds. The dwarf larkspur is responsible for the death of cattle in the mountain pastures of our eastern regions.

There are many different kinds of larkspurs. These plants generally start up early in the spring and often ahead of more palatable plants. That's one reason for larkspur poisoning. Losses usually decline as the summer advances and as other palatable plants become plentiful. Larkspur losses are greatest throughout the country in the spring of the year. These losses are heaviest in the mountain area of the West.

According to Dr. Marsh the larkspurs are most poisonous when they are young, and that's another reason why stock raisers should be on the lookout for these plants in the spring of the year.

Larkspur seeds are also very poisonous. They used to be employed to kill a very common "animal" on the heads of some children. Scenting some relief for one of my own secret sorrows, I asked if these seeds would cause hair to grow on bald heads. Dr. Marsh grinned and my hopes leaped high----- but he finally answered in the negative.

Farmers' Bulletin No. 988-F, entitled "LARKSPUR OR POISON WEED," contains 14 interesting pages of usable material relative to the larkspurs. Every farm library ought to have a copy of this bulletin.

Now let's summarize the larkspur information. Here we go:

Larkspurs grow in the mountain ranges of the Western States, and to some extent in the eastern part of the country. Horses and sheep are not injured by grazing on larkspurs. Most larkspur losses occur during the spring and early summer, but in areas where the snow remains late, cases may occur late in the summer or even in the fall. Poisoning may be prevented largely by keeping animals away from infested areas until the plants have matured. This can be done by the use of a drift fence or by riders who keep the cattle away from larkspur areas.

If you want to eradicate the plants, remove from 6 to 8 inches of the roots and prevent the cattle from eating the dried plants.

Cattle poisoned by larkspur should be kept as quiet as possible and turned with heads uphill; they should be "punched" if severe bloating occurs; should not be bled; and in most cases may be saved by a subcutaneous injection of drugs mentioned in the bulletin.

The roots of blue camas plants are edible, but there is another camas known as DEATH CAMAS, and it is death to sheep, and may affect cattle, horses, and even people. All kinds of death camas are poisonous. The plants are found on mountains, and in the foothills.

It is important that persons handling animals should not only recognize death camas, but be able to make the distinction between the different kinds.

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There are no practical remedies which can be administered for death-camas poisoning. Dependence must be placed on prevention rather than cure. Farmers' Bulletin No. 1273-F, entitled "THE STOCK POISONING DEATH CAMAS," contains plenty of information for the person who wants to read and learn of these plants.

Water hemlock is another poisonous plant to be on the lookout for in the spring. It grows in the mountains of the East and West and along irrigation ditches. The root is the poisonous part of the plant. Many children are poisoned each year by eating the roots of this plant. Losses from this plant are not very great because the roots are in the ground, but it is one of the most poisonous of all when actually eaten.

Dr. Marsh cautions that children should be taught to keep plants and roots out of their mouths.

I could have listened to Dr. Marsh all the morning, but my time was up so I had to go. During this interview I was impressed with the fact that much livestock poisoning is due to faulty pastures, scanty feed, and neglect in allowing animals to graze places heavily infested with plants known to be poisonous.

--ooOoo--

CLOSING ANNOUNCEMENT: You have just listened to one of the regular Farm Reporter programs which come to you through the cooperation of the United States Department of Agriculture. Your Reporter mentioned Farmers' Bulletin No. 988-F, "LARKSPUR OR POISON WEED," Farmers' Bulletin No. 1273-F, "THE STOCK-POISONING DEATH CAMAS," and Farmers' Bulletin No. 1166-F, "POISON IVY AND POISON SUMAC AND THEIR ERADICATION." Write to this station if you want copies of these bulletins.

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Not long ago one of our radio listeners in the mountains of northern Georgia lost a very fine cow. A few days later the calf died. Investigations disclosed that the cow had eaten quite a bit of a poisonous plant known in that section as white snakeroot.

When white snakeroot is eaten in sufficient quantities by a cow it produces a disease known as TREMBLES. The disease is often called milk sickness, but we speak of it as TREMBLES also, because violent trembles result from poisoning by this plant.

TREMBLES affects cattle, horses, sheep, swine, and even man. White snakeroot which produces this disease comes along in the spring, summer, and fall, but is most dangerous in the late summer and early fall. I'm calling your attention to the plant now so that you can get the bulletin and be prepared to handle the situation before you suffer any actual loss.

No effective treatment is known for this disease in animals. Epsom salt, linseed oil, or any good laxative or purgative may help.

Farmers' Bulletin No. 1593-F, entitled "TREMBLES," contains 10 practical pages on this disease which is produced in the East by white snake-root, and in the Southwest by the rayless goldenrod. This bulletin should be in the library of every farmer and stock raiser throughout the sections where white snakeroot and rayless goldenrod are known to exist.

Dr. Marsh said that he had a gardener friend who threw out some waste lettuce leaves at the edge of a pond near his home. A litter of pigs went out to the pond, as they frequently did, and only half of them came back. He buried the others. The lettuce did not harm the pigs but under the lettuce were some young plants of the common cocklebur. These young plants are very poisonous, especially when they are young and tender and the first leaves are just forming. It is thought that many mysterious losses of swine have been due to the young cocklebur. Sheep and other animals may also be poisoned by the young cocklebur, but hogs suffer the greatest losses because they frequent ponds and damp places where the plants grow.

A prompt dose of oil or grease----like linseed oil or bacon grease----will often prevent loss from young cocklebur poisoning.

In many of the hilly sections of the South we find a plant called BUCKEYE. This plant, or bush, as it really is, comes on early in the spring before the green tender shoots of other plants put out. Cattle are hungry for something green early in the season, and if not well fed----may eat enough of the buckeye to be poisoned.

Cases of buckeye poisoning are very rare where cattle are well fed, and that brings me to the point Dr. Marsh made about feeding. Here it is. Much livestock poisoning is due to faulty pastures, scanty feed, and neglect in allowing animals to graze places heavily infested with known poisonous plants.

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Region 3.

Summarizing we find that we have three poisonous plants in the South and Southeast during the spring of the year. White snakeroot is often found in the mountain and hilly regions. Buckeye is frequently found in the hilly and rolling sections, and cocklebur is found along the bottoms and lowlands.

If you desire additional information about poisonous plants, consult your county agent, write your State College of Agriculture, or the United States Department of Agriculture, Washington, D. C.

--ooOoo--

CLOSING ANNOUNCEMENT: You have just listened to one of the regular Farm Reporter programs sent you from Station _____ through the cooperation of the United States Department of Agriculture. Your Reporter mentioned Farmers' Bulletin No.1166-F, "POISON IVY POISON SUMAC AND THEIR ERADICATION," and Farmers' Bulletin No.1593-F, "TREMBLES." Write this station if you desire copies of these bulletins.

In the great central part of this country often spoken of as the Corn Belt, we find three plants which are very poisonous to livestock. These plants are; white snakeroot, cocklebur, and water hemlock.

White snakeroot is a very poisonous plant. It comes along in the spring, summer and fall, but is most dangerous in the late summer and early fall. I'm calling your attention to this plant at this time so you can get the bulletin on TREMBLES, which is the disease that results from the eating of the white snakeroot. The disease is often called milk sickness, but it is also spoken of as TREMBLES because violent trembles result from poisoning by this plant.

TREMBLES affects cattle, horses, sheep, swine, and even man. No effective treatment is known for this disease in animals. Epsom salt, raw linseed oil, or any good laxative or purgative may help.

Farmers' Bulletin No. 1593-F, entitled "TREMBLES," contains 10 practical pages on this disease which is produced in the East by white snakeroot, and in the Southwest by the rayless goldenrod. This bulletin should be in the library of every farmer and stock raiser throughout the sections where white snakeroot and rayless goldenrod are known to exist.

Dr. Marsh said that he had a gardener friend who threw out some waste lettuce leaves at the edge of a pond near his home. A litter of pigs went out to the pond, as they frequently did, and only half of them came back. He buried the others. The lettuce did not harm the pigs, but under the lettuce were some young plants of the common cocklebur. These young plants are very poisonous, especially when they are young and tender and the first leaves are just forming.

It is thought that many mysterious losses of swine have been due to the young cocklebur. Sheep and other animals may also be poisoned by eating the young cockleburs, but hogs suffer the greatest losses because they frequent ponds and damp places where the plants grow.

A prompt dose of oil or grease-----like linseed oil or bacon grease-----will often prevent loss from young cocklebur poisoning.

Water hemlock is another poisonous plant to be on the lookout for in the spring of the year. It grows in the mountains of the East and West, along irrigation and drainage ditches, and in various scattered sections of the country.

The root is the poisonous part of the plant. Many children are poisoned each year by eating the roots of this plant. Losses of livestock from this plant are not very great because the roots are in the ground, but it is one of the most poisonous of all plants.

Dr. Marsh cautions that children should be taught to keep plants and roots out of their mouths.

Summarizing the poisonous plants for the great Corn Belt and adjacent sections----we have white snakeroot in the wooded regions, water hemlock

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in about the same sections and swampy places, and cockleburs in the bottoms and lowlands.

Dr. Marsh impressed me with the fact that much livestock poisoning is due to faulty pastures, scanty feed, and neglect in allowing animals to graze places heavily infested with known poisonous plants.

---ooOoo---

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★ MAY 19 1930 ★

U. S. Department of Agriculture

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In 340
YOUR FARM REPORTER AT WASHINGTON.

Tuesday, May 20, 1930.

Crops and Soils Interview No. 36:

Weather and Plant Diseases.

ANNOUNCEMENT: What is going to happen between now and harvest? What will the weather be? ---- That is one of the big questions now agitating the minds of maybe most of the six million farmers in this country. Your farm reporter at Washington has been talking weather with plant experts of the United States Department of Agriculture --- maybe you would be interested in listening in on what they told him --- Well, Mr. Reporter? ----

Everybody knows that what the harvest will be depends a lot on what the weather will be.

We've all seen wind and rain and hail beat down and break off and up-root plants of one kind or another; to say nothing of the day-by-day effect of an extra dry or an extra wet spell.

Some of us have had experience with the lightning running along wires and killing grape-vines and the like. That kind of weather damage is plain.

But Dr. M. B. Waite, in charge of fruit disease investigations for the United States Department of Agriculture, has been telling me about some of the other ways weather strikes our crops.

He says the weather may be all right as far as its direct effect on plant growth is concerned, but that same weather may be extra favorable for some disease which attacks the plant. Such fungous diseases as apple bitter rot and apple blotch thrive only during hot summer weather. On the other hand, high summer temperatures not particularly bad for the plant may be very hard on some of the disease-producing fungi and bacteria. That is the reason these diseases are limited to cooler parts of the country.

Dr. Waite divides plant diseases into three kinds; First, those caused by parasites such as fungi, bacteria, and nematodes; Second, virus diseases, which act as if they were caused by some of those low forms of life, but which can not be traced directly to any such parasite; and Third, diseases due to various conditions in the environment.

All three kinds of plant diseases are influenced by the weather. In fact, some of the "condition" diseases are due almost entirely to the weather extremes.

For instance, root drowning, which kills the root hairs or young feeding rootlets, is a very common trouble with fruit trees and other crops. Then, we've all heard about nitrogen starvation, and potash starvation, and even lime starvation, or magnesium starvation. Of course, those conditions, as the

name shows, are due to lack of those needed elements in the soil. That lack is often tied up to too much rainfall which washes out the plant food from the soil.

All plants need normal quantities of water. When they get too much, it is just too bad. Whether it is in the ground in which they grow or in the air around them, moisture is important. Plants growing with too much moisture form big, tender, sappy leaves. Then along comes a hot, dry spell and they are not able to stand the change. After dry weather the leaves can not stand rain. Violent changes cause many of the plant's moisture troubles.

Not only is there direct injury, but rains and high humidity furnish infection conditions favorable to many of the fungous parasites that damage plants. Generally speaking, fungous diseases are most serious in rainy or moist regions. That doesn't mean they all need a long wet spell. The apple powdery mildew can thrive on fog and heavy dew. In fact, there are plenty of powdery mildews and rusts in semiarid regions. And fungous diseases of the roots of plants are just as common in the drier parts of the country as they are in the wet sections.

In general, parasitic fungi reach the leaves, or fruits, or stems of plants in the form of tiny spores blown by the wind or carried by insects. But they must have a drop of water, rainwater or dew, in which to develop. Some fungi, like the downy mildew of grape or potato germinate in a drop of water. The germ tube or roots, as it were, of the fungus must find an opening into the plant through a breathing pore or it must bore through the thin, outer skin of the plant.

That thin, outer skin of plants is air-tight and water-tight and ordinarily very resistant to most parasites, Dr. Waite says. Some can bore through the uninjured skin, but most have to depend on some break. Storms whip the leaves and branches and break the skin, and many kinds of insects puncture it and so leave the openings for the tiny, hair-like tubes of the fungus to get in. So you see the rain storm aids the fungous disease in two ways. It may make the openings for the fungi which it helps to develop and supply moisture for an infection period.

The apple-cedar rust which spreads from cedar trees to apple trees by the wind is very susceptible to rain. When there are few rains in the spring, few of those rust spores are thrown out from the red-cedars, so that only a moderate amount of the rust disease shows up on the apples. There must also be moisture on the apple leaves for the rust to develop after the spores are blown from the cedars to the apple trees. Last year there were a number of rains in the region around Washington, D. C. in May and June. As a result there were a much larger amount of cedar rust than in previous seasons when the early summer was marked by dry weather.

In the humid eastern part of the United States, plums, peaches, and sweet cherries are very susceptible to brown rot as the fruits begin to mature. Damp conditions at that time often cause big damage. Fear blight is another disease

greatly favored by moisture at certain critical periods. In fact, the number of fungous diseases favored by rain and checked by dry weather is legion.

As for these so-called "virus" diseases, Dr. Waite says we don't know enough about them yet to say much about how the weather does affect them. In fact, in the peach-yellowings diseases, the weather doesn't seem to have any effect after the disease once shows on the trees. The trees seem to die according to a regular program in four or five years regardless of the weather. There are variations in the number of new cases in different seasons and in different communities. What causes those variations we can't yet say for certain.

In some cases, the virus diseases are carried ^{from} plant to plant by insects. And the number of insects on hand to carry the disease is affected by the weather. In certain cases, however, some of the milder virus diseases are known to be entirely hidden or masked by favorable weather which causes the plant to grow so vigorously that it seems normal. When the favorable weather lets up, or the plant moved to another region the trouble begins to show.

ANNOUNCEMENT: The short discussion of the weather and plant diseases to which you have just listened is presented by this station----- in cooperation with the United States Department of Agriculture. It is one of the series of five talks a week under the general title of "Your Farm Reporter at Washington."

W. H. H. H.

LIBRARY

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★ MAY 19 1930

U. S. Department of Agriculture
Wednesday, May 21, 1930

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YOUR FARM REPORTER AT WASHINGTON

Wednesday, May 21, 1930

NOT FOR PUBLICATION

Speaking Time: 10 Minutes

Poultry Interview No. 36: NEW DEVELOPMENTS IN GRADING OF EGGS AND POULTRY

ANNOUNCEMENT: Today is poultry day with Your Farm Reporter at Washington. This week Your Reporter has gone for his information to the Division of Dairy and Poultry Products in the Bureau of Agricultural Economics. He brings you a report on new developments in the grading of eggs and poultry. It seemsthere have been quite a few developments along this line. And now, Mr. Reporter, we'll ask you to tell us what you've found out about them.

I dropped over to see Mr. Rob Slocum, poultry economist, to find out why and how these new developments in egg and poultry gradings are of interest to you folks who raise poultry.

I've been hearing a lot lately about uniform standards and uniform grades and about the grading services of the Bureau of Agricultural Economics, and so on. And I remembered reading that more than 8 million pounds of turkeys were graded last fall according to these federal standards. So I thought you'd be interested in knowing just what is going on.

Let's start off with egg grading. You know we've been grading eggs for a long time, but we've had different ideas about grading. You might be buying and selling eggs under one set of grades, while over in the next state they'd be buying and selling under another set. What we're working toward now is a uniform system for the whole country. This means that a carload of eggs having a certain grade in Vermont would have the same grade in Oregon, and so on.

"Sounds logical," I told Mr. Slocum.

"Well," he replied, "it's not only logical, it's essential—that is, if our marketing system is to be really efficient. We can't claim great efficiency as long as different markets and different sections buy and sell on different standards and different grades."

"The first step," he went on, "is to agree on a uniform basis for grading. We need a yardstick for measuring the quality of the individual egg. And as a matter of fact we're now pretty well agreed on that yardstick. You'll remember that in 1927 the poultry trade accepted what are known as the U.S. Standards of Quality. When we talk about egg grades today we generally talk in terms of these standards. This way we're all on common ground; we can be sure we know what the other fellow is talking about. U.S.

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Special, U.S. Extra, U.S. Standard, U.S. Trade, and so on, are precise terms. Each term defines a definite quality of egg."

"Quality, you understand, is determined by candling. So our standards are based on the condition of five factors: the shell, the air cell, the yolk, the white, and the germ. You see, size and color and so forth don't enter in. For instance, we have U.S. Special large, or U.S. Special White, and so on. These factors come in after quality is determined.

"Well," I said, "if you have uniform standards, won't you also have uniform grading?"

"That's to be looked forward to," replied Mr. Slocum. "You see, grades are something else again. They apply to eggs in quantities. For instance, the Department of Agriculture has worked out what we call the U.S. grades. We have three groups: buying grades, wholesale grades, and retail grades. At buying points eggs are bought and sold according to buying grades. Then they move into wholesale channels in carload lots and we have to make allowances---such as for deterioration, for example. And then they're finally candled and prepared for retailing, so we need still another grade.

"Now, grades are based on percentages. Take retail grades for example. The highest grade is called U.S. Special. To make this grade, a given lot of eggs must contain eggs of the following quality. At least 80 per cent must be U.S. Specials; 10 per cent must be U.S. Extras or better; and the remaining 10 per cent may be U.S. Standards or other lower qualities.

"That gives you an idea of how grading works. You can see how important it is that we have uniform standards on which to base our grades. If grades are all based on the same standards, they're bound to be fairly uniform, even though the grades have different names. Several states for example, and a number of independent buyers, have set up their own grades. But they're based on the U.S. Standards of Quality, so they're all pretty close together."

Now, if you're interested in this question I suggest that you write for information to the Bureau of Agricultural Economics. I want to tell you now about some of the ways the government is cooperating with the poultry industry in the field.

Terminal market grading won't interest you so much, so I'll just mention it in passing. Egg graders, representing the Bureau of Agricultural Markets, are now grading eggs at such markets as New York, Chicago, Boston, Philadelphia, and Washington. Of course they grade according to the U.S. Standards of Quality and the U.S. Grades. This is a big step toward uniformity of grades, and the Department of Agriculture arranges for this service at the request of agencies in the poultry trade.

Now, you'll be more interested in what is known as the Federal-State egg-grading service. Here's one example of how it works:

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The Bureau of Agricultural Economics cooperates with a state agency, often the Bureau of Markets. A competent person in the state qualifies to grade eggs according to the U.S. Standards and Grades. He is licensed by the Department of Agriculture as an egg-grader, and he may have the title of federal-state supervisor of egg grading.

Then a request comes in for grading service. The state enters into an agreement with the group or concern requesting it, and the supervisor trains the required number of persons to grade eggs. When they qualify he recommends them for a license and they're put on the state pay-roll. The state, of course, collects fees from the agency for whom the grading is done.

So far, agencies in five states have taken advantage of this service. In Virginia they're following the plan just as I outlined it. Down in the famous Shenandoah Valley a big egg company has eggs graded at individual buying stations, and so farmers sell their eggs on the basis of U.S. grades.

In Florida, cooperative associations are taking advantage of the service. The other states using some form of it are Tennessee, California and West Virginia.

You see, the Department of Agriculture puts these services on a strictly request basis. They stand ready to help when their help is wanted, but they don't come in unless they're invited.

The same principle applies to grading and inspection of poultry. Both inspection and grading are on a voluntary basis. They're furnished upon request. For instance, those 8 million pounds of turkey were graded last fall because of requests from the trade.

You know inspection and grading of poultry are getting to be more and more important. New developments in packing and canning poultry meat make careful inspection necessary. People buy more readily if the wholesomeness of a canned product is guaranteed by official inspection. And as to grades--well, as Mr. Slocum says, they help the situation because, first--the producer knows what price he can expect for certain grades--and second, the consumer knows he is getting just what he pays for.

Grading offers real advantages to the good producer says Mr. Slocum. Marketing on the basis of uniform grades gives the poultry raiser a special incentive to market high class products.

ANNOUNCEMENT: Your Farm Reporter at Washington has just told about new developments in grading of eggs and poultry. Look for him again tomorrow at this same hour. At that time he'll be back with his weekly report from the Federal Farm Board.

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Radio Service

OFFICE OF
INFORMATION

★ MAY 19 1930 ★

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.

RELEASE Thursday, May 22, 1930.

Cooperation Interview No. 36: Co-op Growth.

ANNOUNCEMENT: This cry of cooperation in the marketing of farm crops has a familiar ring to many of us. But the Federal Farm Board and new cooperatives seem to be creating quite a stir in the papers these days. For that reason, we sent your farm reporter at Washington to the experts of the Board to find out how cooperation stands today and how this present movement differs from what has gone before ----- Well, Mr. Reporter -----

As you all know, farmers have been organizing for a long time. We have had co-ops here, there and yonder.

Many folks have been tied up, even as you and I, so closely with the success or failure of our own co-op, that we haven't been able to get a broad general picture of what has happened through the country as a whole.

That's not the case with Chris L. Christensen. He used to be head of the Cooperative Division of the United States Department of Agriculture and is now secretary of the Federal Farm Board. He has been where he could take in the whole scene. He has seen the failures and the successes and the more or less steady growth of the farmers' cooperative movement.

I say "more or less steady growth" because, Mr. Christensen tells me, our co-op movement has gone on in a series of waves. First, we would have a boom in the organization of co-ops. Then would come hard times for the co-ops and a let-down in the co-op movement. Co-ops that were too hastily organized or poorly financed or otherwise badly equipped for the proverbial rainy day went down. But this movement toward cooperation has shown vitality. Each time cooperation has come back stronger than ever. Growers have learned from past mistakes. The general tendency has been toward bigger and better co-ops, and a better understanding of the marketing problem.

But the ever-increasing waves of cooperation haven't started at the same time or followed the same swing in all lines of farming.

The dairymen in New York seem to have been the first to start cooperation in this country. Back in the fifties, they began to organize co-op cheese and butter factories. Dairymen found that a group of farmers working together could manufacture butter more efficiently than any of them could by himself.

Today there are 1200 co-op creameries in the states of Minnesota, Wisconsin, Iowa, and Dakota. Five hundred of those have carried cooperation

one step further and have formed one central co-op to sell the butter from all the member creameries. They have found that, just as one group acting together is more efficient than an individual farmer, so a number of co-ops banded together in a regional co-op may be more efficient than one co-op by itself in meeting the market conditions.

Mr. Christensen says it is a somewhat similar story with other leading farm products. Grain farmers organized the first local elevator associations in the sixties. The idea spread. The movement had its ups and downs, but we now have over 4,000 local elevators. Some of those locals have joined together to meet grain marketing needs by the formation of farmer owned terminal grain commission agencies.

A somewhat similar course has been followed by livestock farmers. They began organizing livestock shipping associations in the early eighties. They kept it up. Some associations quit and others started. Last year, we had 4,500 such co-ops in this country. They did \$400,000,000 worth of business.

Wool growers began to organize about the same time as the livestock farmers. Last year, there were more than 100 wool co-ops. They too had in several cases carried cooperation another step. They had organizations of a regional nature, too.

The first large-scale cotton co-op was formed in Oklahoma, in 1921. There are fourteen of those big state-wide or regional associations marketing cotton, which have been formed in the last ten years.

I gather from what Mr. Christensen says that the tendency toward such bigger organizations has been rather general, in most of our leading lines of farming. Too often, however, the local and regionals have competed one with the other in the market. That has been good for the buyers, but not so good for the producers and their co-ops.

That, in a general way, is the picture up until the Federal Farm Board came on the scene. Now, with the help of the Farm Board farmers in this country in a number of different lines are taking another step forward in cooperation.

The first step was the local co-op. The second step was the regional co-op made up of many locals. During the past few months, we have had the third step or the organization of locals and regionals into national associations. Farmers' Nationals have already been set-up by grain growers, and livestock producers, and wool growers, and cotton growers, and bean growers. These national farmer-owned and farmer-controlled organizations have been fostered by the Federal Farm Board. They give the Board the machinery through which it can help the regionals, and the locals, and through them the farmers themselves. They cut out competition between one co-op unit and another and coordinate all parts of the farm marketing machinery under farmer control.

Of course, conditions with all crops and in all sections are not the same. More effective cooperation will develop differently in different commodities. In some cases, it will take longer time and more work to set-up

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a more complete form of cooperation than in others. The Federal Farm Board has been getting floods of questions about how it helps. How loans are made. How a local co-op must be organized to get the benefits of the Federal Agricultural Marketing Act. The Board has prepared a circular setting down the chief questions asked with concise answers to them. If you are interested in this new cooperative scheme of things and have any questions, write for that Circular No. 1. It may give you just the information you want.

Ten months ago, the Federal Farm Board took hold. Much has been done since. Much more remains to be done. Mr. Christensen says the Board recognizes that our farm problems can't be settled overnight. Each crop has its special problems and perplexities. However in the Agricultural Marketing Act it was recognized that any permanent solution of the farm problem must come through collective action on the part of farmers. How soon will probably largely depend on the farmers themselves.

ANNOUNCEMENT: Circular No. 1. "Questions and Answers" about the activities of the Federal Farm Board under the Agricultural Marketing Act can be had by writing to this Station -----or by writing direct to the Federal Farm Board, Washington, D. C. This Station cooperates with the Board and with the United States Department of Agriculture in presenting this feature.

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1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained. It is a general statement of the work done and the results obtained.

2. The second part of the report deals with the details of the work done during the year. It is a detailed statement of the work done and the results obtained. It is a detailed statement of the work done and the results obtained.

3. The third part of the report deals with the financial statement of the work done during the year. It is a statement of the financial statement of the work done during the year.

4. The fourth part of the report deals with the conclusions of the work done during the year. It is a statement of the conclusions of the work done during the year.

U. S. Department of Agriculture

YOUR FARM REPORTER AT WASHINGTON.

Monday, May 26, 1930

NOT FOR PUBLICATION.

Speaking Time: 9 Minutes.

All Regions.

HOW LONG SHOULD HORSES LIVE?

OPENING ANNOUNCEMENT: "How long should horses live?" That's the question your Farm Reporter asked a scientific investigator in the United States Bureau of Animal Industry. If you are interested in the answer to that question, listen to this 8 minute radio talk. All right, Mr. Reporter.

—ooOoo—

Folks, I want to talk to you to-day about life. You know life has always been an interesting study, and it has always provided an interesting subject for conversation. Scientists have never been able to produce life, but they have, in many instances, found ways of prolonging it.

I used to drive an automobile one year and then trade it in for a new car, but my present machine is three years old and in good mechanical condition. Why? Because I have taken care of it. The other afternoon I saw an old-fashioned ship come sailing up the Potomac River to Washington. The ship was built in India while George Washington was President, and when Napoleon was just 21 years old and 25 years before the battle of Waterloo. That old sail ship is considerably more than 100 years old, but she is still able to stem the tide. Why? Because she has been well cared for.

One farmer can work a horse or mule for a period of about 5 years and that animal is about ready for the "boneyard." Another farmer can get good service from horses for 10 or 15 years. Now why the difference? Well, a great deal of this difference is due to the treatment the animals receive.

Some animals live much longer than others because they receive better care and treatment. In order to bring out this point I'm going to tell you folks the story of "Old Nick." That's the name of a horse owned by the United States Department of Agriculture.

Bethesda, Maryland, is a suburb of Washington, D. C., and the United States Bureau of Animal Industry has a 50-acre experiment station at that place. Dr. W. E. Cotton is superintendent of the station whose investigators have done notable work in increasing man's mastery over livestock diseases and infections.

According to Dr. Cotton's records the Government station received a black gelding horse on March 7, 1906. The horse was then about eleven years

UNITED STATES DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C.

ANNUAL REPORT OF THE

COMMISSIONER OF THE GENERAL LAND OFFICE

FOR THE YEAR 1901

THE GENERAL LAND OFFICE

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1902

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1902

old, in very good condition, and weighed approximately 1,250 pounds. He was given the name of "Old Nick," I suppose partly because he was considered an old horse at the age of eleven years.

Anyway, from 1906 to 1915 Old Nick was used for delivery purposes between the station and the United States Department of Agriculture in the city of Washington. That is a distance of 9 miles and Old Nick made the round trip nearly every day for a period of 9 years. Sometimes he was driven to a single wagon and sometimes he had company and worked double, but single or double he made about 20 miles every day, and was always ready to do his part.

In October, 1915, a light motor truck was put on the run between the station and the Department in Washington, and Old Nick, the familiar old horse to the people along the road, was kept for general work at the station. He continued at this farm work until 1924. From 1924 to the fall of 1927 Old Nick was used for light hauling around the station. He was retired in the fall of 1927, and has done no work since that time.

Summarizing Dr. Cotton's records I found that Old Nick is 34 years old. The Government got 9 years of delivery service from that horse, 9 years of actual farm service, and 3 years of light farm work, in addition to about 8 years he worked for somebody before he came to the station. In other words, Old Nick did profitable work for about 29 years.

How did he do it?

Dr. Cotton was rather modest, but I'm of the opinion that Old Nick was able to carry on for a long time because Dr. Cotton and the station employees saw that Old Nick, along with all the animals at the station, received the best of care and treatment.

I thought it would be interesting to know something about Old Nick's diet so I asked for information on that subject.

"Well," said Dr. Cotton, "during Old Nick's active service he was fed oats and timothy hay. His present feed consists of bran, alfalfa meal, and a few oats. He can still eat a little hay, but not very much."

I was very much interested in this 34 year old farm horse so I went out in the pasture and had a good look at Old Nick while he was day-dreaming, under a sugar maple tree, about the days of yore.

To my surprise I found the old horse in fairly good condition. His coat of hair is still good, and he still has quite a bit of action left in his system. His appetite is good, especially when it comes to eating apples. I know because I offered him one. Old Nick can hear as well as the average horse, but he is not nearly so heavy as he was when he came to the station. His actual weight now is 975 pounds, a falling off of 275 pounds.

Old Nick's teeth are in splendid condition for a horse of his age. He still has his incisor teeth. They are worn evenly from long service, but they are there and still working. His wolf teeth are present also, and are like-

wise considerably worn. The molars are all present, but several teeth in one jaw have been worn below the surface of the gums by the harder ones opposite. In other instances some of the teeth have worn unevenly and left sharp corners, but these are to be dressed down so that mastication will again be fairly easy for Old Nick.

Now folks, I have told you the story of Old Nick, to bring to your attention the fact that it pays to take care of animals. Dr. Cotton believes that farmers ought to make an effort to keep animals that are really worth keeping and then take care of those animals so as to get the longest possible service from them.

This is the last week in May and farm horses and mules have been as we commonly say, "up against the collar," now for several weeks, and it's a good time to take inventory and see how the work animals are holding up.

Old Nick rendered farm service for 25 or 30 years, and that's a long time for a horse to work. Your horses may render service for a good many years yet to come if you'll just take a little time to check up on their care and treatment, and see that they get the kind that work animals deserve.

What I have said about horses of course goes for mules, cattle, hogs, sheep, and all animals. It pays to take care of anything worthwhile.

What is the proper care for a work horse?

I thought many of you listeners would be asking that question, so I am going to close by suggesting that you write this station for copies of the two following bulletins:

Farmers' Bulletin No. 1030-F, entitled "FEEDING HORSES," and
Farmers' Bulletin No. 1419-F, entitled "CARE AND MANAGEMENT OF FARM
WORK HORSES."

Write the United States Bureau of Animal Industry, Washington, D. C. if you want information on specific horse problems.

--ooOoo--

CLOSING ANNOUNCEMENT: You have just listened to one of the regular Farm Reporter programs sent to you from Station _____ through the cooperation of the United States Department of Agriculture. Your Farm Reporter mentioned Farmers' Bulletin No. 1030-F, "FEEDING HORSES," and Farmers' Bulletin No. 1419-F, "CARE AND MANAGEMENT OF FARM WORK HORSES." You may have copies of these bulletins by sending your request to this station.

--ooOoo--

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YOUR FARM REPORTER AT WASHINGTON.

Tuesday, May 27, 1930

Crops and Soils Interview No. 37:

Corn Cultivation.

ANNOUNCEMENT: Your farm reporter at Washington will now report. He has been talking to the corn specialist of the United States Department of Agriculture. They have given him a few pointers on corn cultivation, which may be of value to some of us at this time of the year ----- Well, Mr. Reporter?--

The specialists in charge of the corn investigations for the United States Department of Agriculture, tell me there are a lot of ways to cultivate corn. What is best in one place, may not work so well somewhere else. In one series of experiments, corn has been found to need different cultivation from the same kind of corn in soil about a mile away.

Corn differs very much according to locality, but there are some things you can say about corn cultivation which apply pretty generally.

For instance, the old idea, or notion, of the value of making a dust mulch seems to be largely without foundation. The fact is, the soil just below the surface is packed so full of corn roots that probably very little moisture which comes up from below can get by to evaporate from the surface of the soil. If the corn roots need the moisture, they won't let it by them.

The roots of a lot of questions about cultivation seem to be in the roots of the corn.

In general, any method of cultivation which will keep out weeds and do as little damage to the corn plants as possible is the best method.

The weeds not only use moisture, but they rob the corn of plant food. That was proved in experiments under irrigation in which the plants were supplied all the water they could use. But, even then, corn and weeds couldn't get along in the same field.

The main thing is to keep out the weeds. The first cultivation can well be given before the young corn has come up or while it is still very small. You can use weeders, or rotary hoes, or other implements which cover a lot of ground with little labor. At this time, the weed seed are just beginning to sprout and the weeds can be killed off more easily than at any other stage in their development.

Later cultivation may be with any of the ordinary types of cultivator; either walking, riding, or tractor, provided they kill the weeds without injuring the corn.

Generally speaking shallow cultivation is best. It does less damage to the corn roots. Most of the corn roots grow close to the surface. Very

early in their lives, they spread out and interlace across the corn rows. Deep cultivation is likely to cut and tear those roots and injure the plants and maybe stunt their growth.

Of course, you want to go deep enough to kill the weeds. Two to three inches is about as shallow as you can go under most conditions and actually kill the weeds. Occasionally, hard, beating rains after planting make it advisable to make the first cultivation deeper than usual; say about four or five inches, in order to loosen up the packed soil. This is more likely to be needed on heavier soils which tend to run together and pack tight from a hard rain than on lighter soils.

In case such deeper cultivation is needed, the cultivator should be kept away from the young plants to avoid injuring the young roots and stunting the growth. Later cultivation should be no deeper than needed to keep out the weeds.

As for the kind of shovel to use, Mr. Richey says there is no best type of shovel in cultivating corn. Surface cutters or scrapers are first-rate implements where they can be used to control the weeds adequately. Under some conditions, however, they will not do satisfactory work.

Nowadays, the small tooth shovels are used much more generally than those wider shovels we used to use. But under some conditions, the wide shovel will make a very satisfactory tool, if it is properly adjusted so it will cut horizontally instead of vertically.

That weed control is the principal object of corn cultivation has been shown by extensive experiments. Corn plots which have had the weeds merely hoed off, yielded just as much corn as plots nearby which were cultivated thoroughly. On the other hand, Mr. Richey points out, some cultivation may be desirable on the heavier soils especially when the seasons are cool and moist.

Yet even on heavy soil, in the cooler, damper climates, sufficient cultivation to control weeds has been found to be enough to provide good growing conditions. If you cultivate as shallow as you can to kill weeds, you will have good corn cultivation.

The number of cultivations, of course, will vary with the season, and the locality, and the soil itself. The U. S. Department of Agriculture has published a Farmers' Bulletin on "Corn Cultivation" which gives many helpful hints. Ask for Farmers' Bulletin 414-F.

However, that bulletin was published before the old idea of the value of loose soil or dust mulch was exploded by the recent experiments. Then a dry mulch of two or three inches of finely pulverized dry soil, which stays dry and does not absorb much moisture from below, was thought to be a big practical advantage in keeping the moisture within reach of the plant roots.

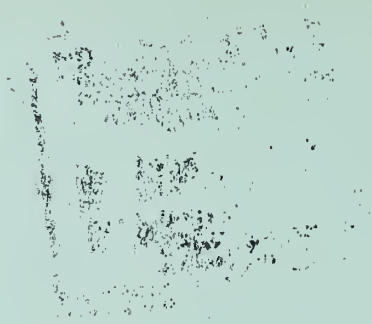
The idea was that as the moisture from the surface evaporated, it was replaced by moisture drawn from greater depths, just as oil is pulled up through the wick of a lamp to take the place of that used up in the flame.

R-F.R. 5/27

Farmers went to the trouble of pulverizing the surface layer to form a sort of dry blanket to hold in the water.

As a matter of fact, the evidence is that very little moisture gets by the roots to evaporate at the surface even without any such dust mulch. If the plant needs the moisture, the roots take it on its way up. That is one little pointer in cultivation which may save work. On many other matters of cultivation, you will find that bulletin a good guide.

ANNOUNCEMENT: You can get this bulletin either by writing to this Station ----- or by writing direct to the United States Department of Agriculture at Washington, D. C. Order by number and ask for the bulletin on "Corn Cultivation" It is Farmers' Bulletin No. 414-F.



MAY 26

U. S. DEPARTMENT OF AGRICULTURE

PRIMER FOR TOWN FARMERS

Wednesday, May 28, 1930

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

ANNOUNCEMENT: Wednesday again, and here is Neighbor Thompson with his weekly reading from the Primer for Town Farmers. This is one of the series of 10 minute chats which Station _____ brings you through the courtesy of the United States Department of Agriculture. Mr. Thompson has a story to tell you today about community improvement and community beautification. Let's hear it, Neighbor.

I've had this story in the back of my mind for some time. I'm reminded of it now because Memorial day is day after tomorrow; and because Memorial day, or Decoration day, always brings to mind the things that make communities beautiful.

This is a true story, and I happen to know it because I lived in this particular community for many years. It begins with one of those real estate promotions that aimed high but fell short of the mark. The promoter started out to develop an ideal suburban community. He aimed to provide streets, curbing, lighting, water supply, schools and all other modern conveniences. And I remember that things went fine for awhile. Homes were built and sold, and many folks bought additional lots on the installment plan. A few streets were laid out and one was paved.

Then something happened, as things sometimes will. The promotion came to a standstill. Most of the people who bought homes defaulted on their payments. But I happened to be one of those who stayed, and I'm glad I did. The receiving company resold the properties and there began once more a slow, steady but substantial development. The majority of the new-comers held on.

I recall how we used to get together and talk over our problems, and we had some real ones. Nothing had been done toward the up-keep and repair of the streets. The lighting system soon went into the discard. The water supply was maintained only through our combined efforts.

Looking back on those days now, however, I wonder if those troubles weren't the best things that ever happened to that community. Those little informal meetings led to the organization of a citizens' association, and it is the work of this association that I want to tell you about.

The association started with two objects: first to provide necessary improvements; and second, to maintain a respectable community appearance. Those folks didn't stop until every family was represented in the association.

Each one gave just a little to a common fund every month, and this fund was carefully used for keeping up the various necessary improvements. The results were quick and satisfactory---in fact, everyone was so pleased that most of them promptly decided to go still further.

Up to this point we'd been concerned almost entirely with community improvements. We had had little time for improving our own individual home surroundings. The original forest undergrowth still flourished in some of the front and side yards. Only a few had attempted to seed down a lawn, with a fair degree of success. Only two, as I remember it, had planted shrubbery.

But now, with the citizens' association solving our common problems, we turned to our own front yards. My next-door neighbor was an old gentleman by the name of John Anderson, and it was "Andy", as we called him, who really led the way. It was "Andy" who introduced us to a little bulletin called "Growing Annual Flowering Plants." And it was Andy who first picked out a list of these plants and planted the seeds in different parts of his premises. Along about midsummer the community began to sit up and take notice. And even folks passing by stopped to comment on what one of them called "this rose in a community of thorns." They saw a great wealth of zinneas, scarlet sage, four o'clocks, cosmos, snap-dragons, marigolds, and nasturtiums amid a background of common castor beans. A landscape gardener would have planned a better arrangement of the flowers, but in spite of this, the place was a riot of blooming color and beauty most of the late summer.

Overnight Andy became the envy of the neighborhood and overnight he himself became an enthusiastic landscape gardener. Early in the fall he bought a grubbing hoe--- cleaned out the wild bushes in his front yard--- worked over the soil---smoothed it, and sowed grass seed upon it. This, was the spark that set off a shot heard clear around the little world we lived in.

It resulted in a very earnest discussion at a spring meeting of our citizens' association and this discussion resulted in a resolution looking toward home improvement and beautification. Everybody agreed to undertake some one line of improvement for the season. This was the start of the work that has built that community into one of the most spic-and-span residential sections I know about.

The most vivid memory I have of those days is of a scene which occurred this same spring. Heavy rains had made a portion of one street impassable, and so a day was set apart for all hands to turn out and help fix it up. The remarkable thing was that every able-bodied man in the community showed up. We started rather late in the afternoon and along about 5 o'clock--- when the blisters were beginning to form on our hands---the women appeared with lemonade and home made cakes. Despite the mud and the blisters and the aching muscles, that occasion is one of my enjoyable memories--- and incidentally we had the road passable by the time darkness rolled around.

I have visited this community many times since I moved away, and every time I go back I am treated to new surprises. The annual flowering plants that Andy Anderson started in the old days are still grown. But in addition I find shrubbery and roses and, in fact, practically every kind of

common ornamental plant. And I find fruit trees and gardens---and of course I still find a few places that might be classed as unsightly. But this citizens' association is still at work, and I'll have to add that the unsightly places are fewer each time I return.

One of their more recent improvements is a playground for the children. It is equipped with swings, and slides and sand boxes and very simple but practical playground equipment. And there is a tennis court for the younger set who are too dignified to play in the sand. And last summer one of my old friends built a swimming pool where his young son never lacks company during the swimming season.

Now, I haven't tried to draw any morals from these reminiscences of mine. I think probably there are some suggestions in this story that many communities might profit by. But if there are, you can see them as well as I can, so I'll not try to point them out. I merely want to emphasize, in closing, that this community is just an ordinary community, like hundreds of others I know. The people are not wealthy---all of them work for their daily bread even as you and I. They have not spent a large amount of money in improving their community. The improvement has come gradually and is largely the result of their own efforts. They have worked hard for it, and for that reason they are enjoying the results all the more.

That bulletin I mentioned, by the way, called "Growing Annual Flowering Plants," is Farmers' Bulletin No. 1171-F. And in my remaining 30 seconds, let me call your attention to a few other Department of Agriculture bulletins you may be interested in. Here they are: "Roses for the Home," is Farmers' Bulletin No. 750-F; "Garden Irises," Farmers' Bulletin No. 1406; "Trees for Town and City Streets," Farmers' Bulletin No. 1208; and "Planting and Care of Street Trees," Farmers' Bulletin No. 1209-F.

ANNOUNCEMENT: Thank you, Neighbor Thompson. You may send your requests for those bulletins Mr. Thompson mentioned to Station_____ or to the Department of Agriculture in Washington. Copies will be sent to you free as long as the supply lasts.

340 YOUR FARM REPORTER AT WASHINGTON

Wednesday, May 28, 1930.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Poultry Interview No. 37: TWO IMPORTANT DISEASES OF GROWING CHICKS.

ANNOUNCEMENT: It is along about this time of year that many poultry raisers begin to have troubles. And very often a large share of these troubles are the result of two costly diseases. For his report today Your Farm Reporter at Washington has interviewed Dr. W. B. Shook, poultry disease specialist of the United States Department of Agriculture. And he brings you now the results of that interview. All right, Mr. Reporter.

Not long ago, you'll remember we were discussing costs of production. We talked about the effect of mortality on the cost of raising chicks. We decided that mortality is a very important factor.

And furthermore, we concluded---on the authority of our poultry-husbandry adviser, Mr. A. R. Lee--- that mortality is much the highest during the first 12 weeks after hatching. Once a chick is 12 weeks old he seems to have a pretty good chance to pull through to maturity.

Now this is the proposition I put up to Dr. Shook. I asked him about the two diseases that take such costly toll among young growing chicks; the two diseases that probably contribute more high-mortality rates than any others. I refer, of course, to pullorum disease, or B.W.D., and to coccidiosis.

I suppose most of you have had experience with these diseases. Perhaps you'll say you know too much about them already. But I thought you'd be interested in getting the last word on the subject from an authority like Dr. Shook.

Let's take B.W.D. first. Why is it such an expensive enemy? In the first place the microorganism that does the damage is harbored in the ovary of the infected hen. Thus the organism becomes part of the egg. And thus infected eggs are responsible for many diseased chicks ----chicks which are ill when hatched, or which become ill a few days later.

A few sick chicks frequently carry the disease to other parts of the incubator or brooder, and other chicks get it.

The mortality may reach as high as 90 per cent of the brood.

There is no sure way, Dr. Shook told me, of curing either chicks or adult birds which are afflicted with B.W.D. There is only one sure way to

combat this disease. And that way is through rigid steps to prevent it from getting into the flock.

Here is what Dr. Shook says about prevention:

"Remember," he says, "that the principal source of infection is through eggs from infected hens. Do not use, for breeding purposes, flocks which harbor the B.W.D. organism. If possible, get all eggs for hatching from flocks known to be free of the disease. We have reliable tests for detecting the presence of B.W.D. in grown birds, and we must take advantage of these tests. Unless we do, the disease will continue to increase, and our present high mortality among baby chicks will remain with us."

So let's make a resolution here and now: Let our first thought be of prevention. And then, when B.W.D. does occur, we must be ready to control or eradicate it. And now I'll tell you what Dr. Shook says about this:

"The first essential is sanitation," he declares. "Sanitary quarters are absolutely necessary. The brooder house must be properly equipped with sanitary drinking fountains and feed hoppers so that contamination from droppings will be impossible.

"Then," he continues, "examine carefully the day-old chicks that you purchase from commercial hatcherymen. Observe them for evidence of disease. Remove any chick that appears stupid---or the chick that seems indifferent and remains under the hover most of the time---or the chick that isolates itself from the others. Other symptoms are ruffled feathers, droopiness, sleepiness, and lack of appetite. Watch out for them. And then---

"Chicks showing any of these symptoms should be destroyed and their carcasses burned.

"Continue this close observation during the first 2 or 3 weeks," Dr. Shook advises. "After that time the danger of a general spread of B.W.D. is practically over."

On the other hand, it seems that coccidiosis rarely occurs in chicks under 3 weeks old. This disease almost invariably makes its appearance after 3 weeks.

You know coccidiosis is sometimes confused with B.W.D. However, although it is equally severe and often acts in much the same way, it is quite different. It is caused by a small parasite instead of a germ. This parasite lives in the intestines of the chick, especially in the parts known as the ceca, and it causes inflammation and degenerative changes.

The symptoms of coccidiosis in young chicks Dr. Shook describes as follows: Droopiness, he says, is a common sign. The wings usually hang down, the chick becomes pale about the head, the feathers are ruffled and soiled.

Chicks showing any of these symptoms should be isolated immediately, he advises. And thereafter houses and yards should be cleaned and disinfected

every second or third day until the disease disappears. See that your drinking fountains and feed hoppers prevent contamination from droppings.

I inquired whether there are remedies for coccidiosis.

Dr. Shook told me that buttermilk is reported to be of value in both preventing and treating the disease. It helps the chick build up resistance against the tiny parasites.

Certain medicinal agents are also used with apparently good results in the early stages of the disease. However, says Dr. Shook, it is possible that a chick may be cured of the symptoms and still keep the disease. It may continue to harbor the parasite and yet develop into an adult bird.

For this reason, he warns, a suspect should always be considered a suspect. And all suspects should be kept isolated from the rest of the flock.

Coccidiosis is not so common in older birds as in chicks. Grown birds usually have built up resistance against it. However, many of them, especially pullets, have the disease in chronic form. The symptoms in adult birds are emaciation, poor physique, paralysis, lameness, and poor appetite; and as a rule they are either poor layers or non-layers.

In such cases the best way is to use these birds for food purposes, if their physical condition warrants their use as food. Otherwise, kill them and burn their carcasses.

All the way through the interview Dr. Shook emphasized sanitation. And he ended up by pointing out that separate quarters for young chicks are an important step in controlling coccidiosis. He recommends that all poultry raisers provide for this separation.

Now, in my remaining 30 seconds let me remind you of Farmers' Bulletin No. 1337-F, called "Diseases of Poultry." This bulletin will give you valuable information that should help you in dealing with B.W.D., coccidiosis, and other common poultry troubles. You can get it free as long as the supply lasts.

ANNOUNCEMENT: Your Farm Reporter has just told you of his interview with Dr. W. B. Shook, poultry disease expert of the United States Department of Agriculture. The bulletin he just mentioned is called "Diseases of Poultry," and the number is Farmers' Bulletin No. 1337-F. Write for it to Station _____ or direct to the Department of Agriculture in Washington.

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YOUR FARM REPORTER AT WASHINGTON.

RELEASE Thursday, May 29, 1930.

NOT FOR PUBLICATION

Cooperative Interview No. 37:

Education in Cooperation.

ANNOUNCEMENT: Your Farm Reporter at Washington is due to give us another of his reports on cooperative marketing. Once each week at this time he tells us about the co-op activities. He gets his information from the specialists of the Federal Farm Board. ---- Well, here you are, Mr. Reporter! --- We've just been waiting for you ----- What about the co-ops now? ----

Two million of our six and a half million farmers are already in co-ops. That seems an impressive beginning, on the marketing end of their business. However, Mr. A. W. McKay, chief of the cooperative marketing division of the Federal Farm Board, says that the farmers of tomorrow will be able to make progress which is impossible at the present time.

That, he explains, is because they will know what can and what can not be done by co-ops. They will also have leaders thoroughly trained in co-op principles. They will have the benefit of the lessons which have been learned from the successes and failures of co-ops in the past.

In fact, in these last few years since farmers' co-ops have been growing so fast, there has also been a remarkable growth in co-op education. Mr. McKay points out that we now have a number of agencies laying the foundation for a fuller realization of the possibilities for farmers in co-op marketing.

In the first place, we have the Federal and State Extension Services. Through their County Agents, they are making many facts about co-op marketing problems directly available to the farmers throughout the country.

In addition, the State Extension Services and State Agricultural Colleges have for several years held short-time schools devoted to cooperative marketing. The Division of Cooperative Marketing has helped in those schools with courses designed primarily for the leaders of the movement; such as directors, officers, and managers of co-ops, county agents, and others interested in the practical side of farmers' associations.

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Cooperation has also been given a prominent place in the work of the vocational Agricultural High Schools. Eighty per cent of such schools teach co-op marketing either as a separate course or in connection with other work.

At the present time, Mr. McKay says, the State and Federal Vocational Boards are working out methods for teaching this subject. In addition, a number of teachers of these Smith-Hughes schools are conducting night classes with farmers, which often extend over a ten-day period. Many of the courses are devoted to the principles of cooperative marketing.

In 1928, thirty-two of our Agricultural Colleges and Universities reported that they were offering forty-two special courses in various phases of the farm market problem and cooperative machinery for handling it.

Besides these educational activities within the States, in 1925, the American Institute of Cooperation was formed to act as a national educational institution in cooperative marketing.

It conducts a national summer school with regular courses in cooperation and also holds a series of conferences where the leaders in the co-op movement from all over the country come for a few days get-together to talk over the main co-op problems and to review what has been done and swap experiences.

Last summer the session of this national institution, held in Louisiana, had 1318 persons enrolled from 32 states besides Porto Rico, Phillipine Islands, Canada, and Germany. Officials from about 125 co-ops and 17 institutions of learning and a number of other public and private agencies took part. The Federal Farm Board was there holding conferences almost continually. The members of the Board divided their time between their own and the Institute's sessions. The general session was used by Chairman Legge of the Federal Farm Board and by other Board members and representatives of the trade and leading co-ops in a forum for the announcement of national policies and plans.

This year, the American Institute of Cooperation will hold its meetings at the Ohio State University, Columbus, Ohio. Some of the formal college courses in cooperation will run for four weeks and others for five and a half weeks, beginning June 16 and closing July 23.

Then there will be one week of trade conferences and general sessions from July 7 through July 12. Mr. McKay tells me his Division of Cooperative Marketing of the Federal Farm Board will take part in those discussions. Several members of the Federal Farm Board will probably be there to talk with the directors and managers and others. The general sessions will be attended by managers and officials of cooperative associations, by research workers, teachers, and students of cooperation, county vocational teachers and others interested.

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Then there will be the series of trade conferences on grain, and livestock, and wool, and dairy products, and poultry, and fruits and vegetables, and co-op buying. These will be sort of Round Table discussions of some of the liveliest problems with which we are now faced.

For instance, the Grain Section will thresh out such questions, as the Federal Farm Board's Grain Marketing Policies. What the Farmers' National Grain Corporation means to the farmers' elevators will also be brought up. And how to solve the membership problems of the local elevator will be discussed.

The livestock leaders will talk over the new national live stock marketing program. They will take up this question of trucking by livestock co-ops. Financing the feeding of livestock will also be given attention, as well as a number of other problems.

The Fruit and vegetable men will learn how the Farm Board can help fruit and vegetable growers; what the Inter-State Early Potato Committee has done; how the demand for apples can be increased.

The fundamental differences between marketing eggs on the Pacific Coast and the Corn Belt will be laid before the Poultry Section, as well as trade and other problems in selling eggs by co-ops.

Other sections will take up other questions of first importance to them. National authorities will address the general sessions on the adjustment of the Extension Service to the new cooperative developments, on women's place in the co-op movement, on the American co-op and the European market, on the Federal Farm Board Loan Policy, and similar questions.

These meetings, Mr. McKay says, serve to clarify thought and bring about more harmony and unity of action among organizations directly or indirectly connected with cooperation. They also serve as a means of training and developing the leaders and workers in the cooperative movement and the teachers and others who must train new crops of leaders in the State and local schools and colleges.

ANNOUNCEMENT: This talk on education in cooperation comes to you through the cooperation of this Station ----- with the Federal Farm Board and the United States Department of Agriculture. Anyone interested in that American Institute of Cooperation remember the time and place. The place is Ohio State University, Columbus, Ohio. The regular formal academic courses run from June 16 to July 23. The trade conferences and general sessions begin Monday July 7 and extend through July 12.

The first part of the report discusses the current state of the world economy and the impact of the Asian financial crisis. It notes that the crisis has led to a significant decline in global economic growth and has caused widespread unemployment and poverty in many Asian countries. The report also discusses the impact of the crisis on the global financial system and the role of international organizations in addressing the crisis.

The second part of the report discusses the impact of the crisis on the global environment. It notes that the crisis has led to a significant increase in greenhouse gas emissions and has caused widespread deforestation and loss of biodiversity. The report also discusses the impact of the crisis on the global water supply and the role of international organizations in addressing the crisis.

The third part of the report discusses the impact of the crisis on the global social system. It notes that the crisis has led to a significant increase in social inequality and has caused widespread poverty and homelessness. The report also discusses the impact of the crisis on the global health system and the role of international organizations in addressing the crisis.

The fourth part of the report discusses the impact of the crisis on the global political system. It notes that the crisis has led to a significant increase in political instability and has caused widespread civil unrest and violence. The report also discusses the impact of the crisis on the global human rights system and the role of international organizations in addressing the crisis.

The fifth part of the report discusses the impact of the crisis on the global cultural system. It notes that the crisis has led to a significant increase in cultural inequality and has caused widespread loss of cultural heritage and identity. The report also discusses the impact of the crisis on the global education system and the role of international organizations in addressing the crisis.

The report concludes that the Asian financial crisis has had a significant impact on the global economy, environment, social system, political system, and cultural system. It notes that the crisis has led to a significant increase in global economic inequality and has caused widespread poverty and homelessness. The report also notes that the crisis has led to a significant increase in global environmental degradation and has caused widespread loss of biodiversity and cultural heritage. The report concludes that international organizations must play a significant role in addressing the crisis and in promoting global economic, environmental, social, political, and cultural development.

U. S. Dept.

YOUR FARM REPORTER AT WASHINGTON

Friday, May 30, 1929.

NOT FOR PUBLICATION

Speaking Time: 10 Minutes.

Dairy Interview No. 37: REVISING OUR DAIRY PRODUCTS MAP

ANNOUNCEMENT: The story of cheese and butter manufacturing in this country is a story of almost continuous shifting, geographically. Even in the year 1930 we find marked shifts taking place. And all of this leads one to wonder where our big cheese and butter sections will be 50 years from now. These changes are the theme of Your Farm Reporter's report to you today. He is now going to describe some of the main features of this changing dairy map. Mr. Reporter.

It hardly seems likely that the next 50 years will bring such sweeping changes as the last 50 years have brought us---but I shouldn't want to guarantee that absolutely. You never can tell. Undoubtedly we'll continue to witness shifts in the geography of dairy production---and doubtless some of these changes will be important ones.

While right at present the production of creamery butter is not at standstill, geographically speaking, there are no BIG changes such as we observed when our modern dairy regions first began to go in for dairying. But this is not so true of cheese-making. In fact, cheese-making seems to be on the move. It is spreading, and consequently we may expect some important geographical developments.

Up to the present, you know, most of the important shifts in the manufacture of dairy products have been westward--- away from the industrially-growing East, to the new agricultural countries of the West. Now it seems that the next pronounced shift may be southward. Just how far this movement into the South will develop---and how rapidly---remains to be seen, of course. At any rate, the South is beginning to take more interest in dairying, and its possibilities as a region of dairy production. Everyone who is interested in dairying will be interested in watching this development.

But I'm getting ahead of my story. First let me introduce Mr. B. H. Bennett, Associate Marketing Specialist of the Bureau of Agricultural Economics, who told me the story, and then let's go back and start at the beginning. Mr. Bennett begins with creamery butter, and this is the way he sketched the story to me:

"From the creation of the first creamery in the United States," he said, "the geographical areas of creamery butter production have undergone continuous

shifts. Beginning in a small way in New York around 1856, the industry has moved gradually westward since that time. New regions opened up that were adapted to economical production of butter. And at the same time industrialization and growth of cities made butter manufacture no longer profitable in the Eastern states.

"This westward movement reached its height during the so-called Gay Nineties. From 1890 to 1900 a wave of enthusiasm for dairying seemed to sweep the Middle Western and Great Plains states. In some places this almost amounted to a boom. There was a good deal of high pressure salesmanship, and not all of the new creameries turned out successfully. But at any rate, the Middle West became firmly established as the country's leading butter region. And there it stands today. Since 1900 these shifts have gradually slowed down, and the last 8 years has been a period of relative stability."

During this time, the same forces have been at work, but on a much smaller scale, he explained. For instance, the middle west continued to increase its leadership in butter production, and the eastern states continued to turn more and more to fluid milk. In 1920 the eight states of Minnesota, Iowa, Michigan, Wisconsin, Indiana, Illinois and Ohio produced 61.30 per cent of all the butter produced in the United States. By 1928 they had increased that percentage to 63.1 per cent, Minnesota and Iowa alone produced almost one-third of all the creamery butter made in the United States in 1928.

On the other hand, New York and the New England states and Pennsylvania ----originally the center of butter manufacturing----turned away from the making of butter to the more profitable business of supplying cities with fluid milk. In 1920 New York was responsible for about 2 per cent of the country's total output of creamery butter, but in 1928 the Empire state produced only 3/4 of 1 per cent of the total.

Mr. Bennett then turned to the western side of the country, where the situation is not unlike that in the East. Creamery butter production has increased in the Pacific Coast states of Oregon, Washington and California, but since 1920 it has not kept pace with the gains in the rest of the country. Dairying is expanding, but it is expanding in the direction of fluid milk and other dairy products besides butter.

As a result, the Intermountain and far western Plains states have come up in the picture. New markets for butter on the coast have stimulated dairying in these states. From 1920 to 1928 the group including Colorado, Idaho, Nevada, Montana, New Mexico, Arizona, and Wyoming increased its proportion of the total United States output from 3.1 per cent to 5.04 per cent----practically all of this butter went to supply the demand of growing Pacific Coast cities.

Now, as to the South, it seems to be a land of opportunity. Although some progress has been made since 1920, the South yet supplies only a very small proportion of the Nation's total butter production. Blessed with mild climate, a year-round grazing season, and nearness to market, it offers excellent prospects for further expansion of the creamery industry. However, for the next few years at least, Mr. Bennett expects this expansion to be gradual. There are factors which limit the spread of dairying in the South, and these factors will likely prevent RAPID development.

Now, with cheese the story is a little different. In the past, you know, cheese-making has always been localized----more so than any other major dairy product. But in recent years the industry has been extending into states where little or no cheese has ever been manufactured before.

In 1920 for example, Wisconsin made more than 70 per cent of all the country's cheese. Then other states began to increase their production and in 1928 Wisconsin was producing only 62 per cent of the total.

"Wisconsin will undoubtedly continue to be our principal cheese-producing state for many years," Mr. Bennett explained. "But----it is probable that other sections will be called on more and more to make up a part of the supply as larger quantities of Wisconsin milk are turned to other channels, such as satisfying the increased demands of growing mid-western cities for fluid milk and of the large eastern centers of urban population for sweet cream."

He pointed out that some of this decrease in Wisconsin's production has already been made up by increases in Illinois, Indiana, and Missouri. Minnesota and Michigan have also increased their production slightly.

In most of the eastern states cheese production is decreasing -- for the same reason that butter production is decreasing. They are turning to the milk markets. These decreases, like the decrease in Wisconsin, furnish other regions an opportunity to step into cheese-manufacturing on a bigger scale. The cheese industry is gradually spreading. It is moving into the Northwest and into the Great Plains and into the Intermountain states. It has grown most remarkably, perhaps, in Nebraska. From 3000 pounds in 1920 Nebraska's production jumped to nearly 3 million in 1928.

But most interesting of all, the cheese industry is going into the South. Everybody connected with cheese manufacturing is watching developments in the Southern states, Mr. Bennett declares.

"Until 1927," he told me, "the South manufactured only a very small quantity of cheese and, ---he added---poor quality cheese. At that time a large manufacturing organization erected experimental plants in several states. Following this the manufacture of cheese expanded markedly in 1928, and all indications are that the expansion continued in 1929. For the first nine months of last year the figures indicate that production in Virginia, North Carolina, Alabama, Mississippi, Texas, Kentucky and Tennessee, was approximately 50 per cent greater than for the corresponding period in 1928."

The cheese industry in the South is, of course, just in its infancy. But it is a promising infant and it shows indications of growing up. Cheese manufacturers in the South have had to contend with unfavorable climatic conditions, as the high southern temperatures make it impossible to produce a good quality of cheese under the same practices used in regions with more moderate temperature and an improvement in the quality of milk used for the making of cheese is making it possible for the South to turn out a cheese that compares quite favorably in quality with cheese made in the old established cheese manufacturing states.

I haven't time now to tell you about other trends, and shifts and changes that Mr. Bennett pointed out to me. But this is an interesting subject, and we'll doubtless come back to it again. Meanwhile, if you want further information, write to the Bureau of Agricultural Economics of the United States Department of Agriculture in Washington.

ANNOUNCEMENT: Your Farm Reporter has just described some of the changes on our dairy products map. Today's program was his regular Friday report to dairy farmers, which Station _____ brings you once a week at this time through the courtesy of the United States Department of Agriculture. Don't forget to tune in Monday for Your Reporter's report on livestock.

